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ABSTRACT

This guide is designed to assist school personnel in the implementation of a self-improvement program for in-service teachers. The guide details the organization of the program around seven units: a) orientation, b) the study of teacher/student behavior, c) Flanders Interaction Analysis system, d) analysis of classroom verbal interaction, e) interpretation of the matrix, f) instructional activities for video tape, and g) evaluation. For each unit objectives, content, resource materials, and filmstrips are specified. (The entire program consists of 10 large- and small-group sessions, each two and one-half hours long, and three one-half hour individualized sessions.) The appendixes include information on critiquing procedures, supplementary activities, informal education, video tape evaluation instruments, and video equipment costs; a program summary; a participant reaction sheet; and feedback questionnaires. A bibliography on behavioral objectives, interaction analysis, and teacher/pupil relationship is presented. (BFB)

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A GUIDE for conducting a TEACHER SELF-IMPROVEMENT PROGRAM

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FOREWORD

The Central Arkansas Education Center was established as a part of Title III of the Elementary Secondary Education Act to serve the school districts in Lonoke, Pulaski, and Saline Counties in Arkansas. In an attempt to resolve problems identified through needs assessment in the region, a self-improvement program relating to interaction skills seemed to hold the greatest potential and still meet the criteria test of Title III for being unique and exemplary.

A pilot project was conducted during the spring semester of 1970 with forty participants from schools in the three county area. This first phase of the project was termed a success. The program was extended for operation through a second and third phase during the next two years. The second and third phases were completed successfully with over 350 classroom teachers and other school personnel. (See Appendix M, p. 71 for an evaluation with the Minnesota Teacher Attitude Inventory.) This Guide for conducting a self-improvement program was a product of the three year operation.

The Center assisted four public school districts and parochial schools in the area with the adoption and implementation of the Teacher Self-Improvement Program as a part of their own in-service training activities during the final semester of operation.

We express our appreciation to all students, teachers, administrators, and other school personnel for their participation; however, we want to give special recognition to the teachers who gave of their time voluntarily to participate in project activities and make the operation of the project a success. Also special recognition should be given to those instructors which the administrators released to field-test the guide and implement the program. These instructors were Mrs. Joyce Springer and Mr. Jack Ward of Little Rock; Mrs. Velda Bearden, Mrs. Jeanne LaGrossa, and Mrs. Kay Greenwood of North Little Rock, Mrs. Sarah Kersey of Lonoke, and Sister Christine Wills of the Catholic parochial schools.

We have particularly appreciated the help, too, both in conducting the project and in producing the Guide, of Mrs. Patsy Perry, Instructional Assistant; Mrs. Virginia Kidd, Teacher; Mr. Travis Graham, Video-Technician; and Mrs. Kay Berry, Secretary.

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INTRODUCTION

The Guide was developed to assist school personnel, who are responsible for conducting in-service training, to implement and guide teachers through a self-improvement program.

The basic program consists of thirteen sessions which require approximately thirty hours to complete. Ten of the sessions, two and one-half hours each, should be conducted with the entire class in both large and small groups. The other three sessions, one to two hours each, should be conducted privately with the individual.

The major content of the program is organized around seven units which include (1) orientation, (2) studying teacher and student behavior, (3) Flanders Interaction Analysis System, (4) analyzing classroom verbal interaction, (5) interpretation of the matrix, (6) planning instructional activities for the third video-tape, and (7) evaluation.

A schedule is offered as a suggestion for completing the seven units. The units can be enriched with supplementary activities from Appendix B as time permits. Also, the skills sessions, which are listed in the schedule on the following page, may be drawn from Appendix B. Except for those units in which the Flanders Interaction Analysis System is taught (Units 1-5), other units do not have to be completed in their entirety. It is far more important to obtain honest thinking, discussion, and participation about some of the material than for the instructor to present all of the material. In other words, DON'T TALK TOO MUCH! It is better to instruct the participants in the same way that they are expected to instruct their students.

While some sessions indicate an overlap of units, there is no particular dividing point within these units so that a flexible schedule can be maintained.

With this thought in mind, the following schedule is offered:

First Session:	Unit No. 1
Second Session:	Unit No. 1 and No. 2
Third Session:	Unit No. 2 and No. 3
Fourth Session:	Unit No. 4
Fifth Session:	Unit No. 4 and No. 5
Sixth Session:	Unit No. 5 and Teaching Skills
Seventh Session:	Unit No. 6
Eighth Session:	Unit No. 6
Ninth Session:	Teaching Skills
Tenth Session:	Unit No. 7

Arrangements must be made to provide portable audio or video-equipment. Except for the Minnesota Teacher Attitude Inventory, which must be purchased directly, a copy of each form for use in the program is included in the Appendices. After major equipment items have been arranged for or provided (See Appendix K, p.69), only a nominal cost will be required for reproducing such forms as the (1) matrix, (2) participant reaction sheet, and (3) video-taping evaluation instrument.

UNIT I: ORIENTATION

PURPOSE: The purpose is twofold: (1) to initiate the development of a philosophy for the true meaning of self-improvement and in-service education, (2) to show that this in-service education program is based on self-improvement and will help meet the demands being made upon the teachers.

OBJECTIVES:

1. The participants will be able to write on the topic: "What practical in-service education means to me."
2. The meaning of self-improvement will be discussed by the participants.
3. The participants will attempt to learn the names of the entire group.
4. Participants will state personal instructional problems which this self-improvement course may help.

SUGGESTED CONTENT

I. Sign-In.

II. Welcome participants.

III. Introduce instructional staff and participants.

- A. Introduce instructional staff and participants.
- B. Introduce participants to each other and to the instructional staff.
  1. Video-tape the participant introductions.
  2. Replay to aid staff and participants in becoming acquainted and forming a group.

IV. Complete Minnesota Teacher Attitude Inventory. (Purchase Direct; see Appendix B, p. 54, Item no. 8.)

V. Explain function and origin of this workshop. (Consult Appendix L, p. 70.)

VI. Discuss and establish a definite meeting time and place.

UNIT I: ORIENTATION

SUGGESTED CONTENT

VII. Schedule first video-taping after explaining the purpose. (Consult Appendix A, p. 52.)

VIII. Studying teacher influence. (See I-A and I-B)

A. Show Filmstrip No. 1 and/or discuss the following questions. (See Resource No. 1, as cited below.)

1. What attitudes do you have about in-service education?
2. What do you expect to get out of this workshop?
3. What should in-service education be?
4. What is the difference in a good program and a bad one?
5. What does in-service education have to do with your classroom?
6 What is self-improvement?
7. How does self-improvement start?

IX. Feedback

A. Ask if anyone can name all the teachers in the class.
B. Complete Feedback questionnaire for Unit No. 1. (See Appendix G, p. 65.) Discuss.

RESOURCES:

1. Filmstrips: "Studying Teacher Influence, "Department of Audio Visual Extension, 2037 U. Avenue S.E., University of Minnesota, Minneopolis, Minnesota. 55455

This is a set of five (5) filmstrips and accompanying cassette tapes which can be borrowed from the Central Arkansas Education Center. A summary of each filmstrip is included after each outline.

2. Minnesota Teacher Attitude Inventory (See Appendix B-Evaluation, p.54 .)

IN-SERVICE TRAINING
(Filmstrip #1)

Teachers are on the spot today and everyday; and today as never before, education is under close examination by the community. Much depends upon the teacher.

In-service need not be dull and it can be a wise investment of time and energy. It is hoped that these sessions are different from other sessions that you may have participated in.

Many times it becomes a waste of time and the participants become bored as a VIP rambles through theory when you are not sure of whether or not he is aware of what goes on inside a classroom. One needs a chance to discuss his views with the leader and other teachers. Outside speakers may need only to offer suggestions and not dominate sessions.

The program should be practical and concerned with the everyday problems of the classroom and it should rely on persons who are participating. Teachers wish to work on practical and concrete teaching problems with other teachers. Fresh and stimulating ideas are hidden within a group and the job is to help release them.

Set high standards of what you want from future programs. Seek the freedom to teach and for the privilege of trying new and fresh approaches. If working with a conservative principal, bring him in during the planning stages of the teaching experiment and this will enable one to get along better.

Some workshops are valuable because they come at the right time or relate well to some problems one is having in the classroom. This may enable one to look at some old problems in a new light as well as try out new ideas. Many of these ideas will come out of these discussions and they can be adapted to one's own classroom and style of teaching.

A workshop is successful because participants bring to it their interests concerning the problems to be discussed and a willingness to try out new ideas and to experiment. When you sit down with other teachers and work on problems that you all share, something worthwhile usually comes out of it and the group usually comes up with some useful answers.

The difference between a good program and a poor program may lie in the emphasis and what the people bring to the sessions rather than the caliber of the outside lecturers. If teachers participate or become involved, then the more significant problems are likely to be dealt with.

IN-SERVICE EDUCATION

I. Definition of in-service education: In-service education consists of all the experiences that promote the professional growth of the members of the teaching profession.

   a. continue to be learners
   b. develop new ideas
   c. improve methods and techniques
   d. use results of research
   e. improve the quality of education
   f. become self-directive

II. Who may participate? In-service education is for all members of the profession.

   a. regardless of type of assignments
   b. regardless of size of school

III. What purpose does it serve? In-service education exists to make good schools better.

   a. better understanding of children and youth
   b. becoming more professionally competent
   c. continued growth in building upon pre-service attitudes, skills, and knowledges

IV. What are the responsibilities of each participant in the in-service education program?

   a. plan together
   b. work cooperatively
   c. grow professionally
   d. improve the instructional program
   e. think about what is best for boys and girls

UNIT II: STUDYING TEACHER AND STUDENT BEHAVIOR

PURPOSE: To present the difference between direct and indirect classroom control and the use of this control with dependent and independent students.

OBJECTIVES:

1. The participants will be able to demonstrate their awareness of the purpose of education through discussion as observed by the instructors.

2. The participants will demonstrate their awareness of a teacher's role in education through discussion as observed by the instructors.

3. The participants will be able to state orally that the two types of teacher control are direct and indirect as observed by the instructors.

4. The participants will state in writing that dependent students require indirect control and independent students require indirect control.

5. All participants will be able to review and assess their own attitudes from outcomes on the Minnesota Teacher Attitude Inventory as measured by the instructor's observations.

SUGGESTED CONTENT:

I. Introduce any new participants.

II. Discussion Questions for Introducing Filmstrip no. 2
Note: Come to definite conclusions

A. What is Education?
B. What is the teacher's role in education?
C. Are you a direct or an indirect teacher?

III. Show Filmstrip no. 2 "Studying Teacher Influence."

IV. Discussion Questions for Follow-up of Filmstrip no. 2 (See II-A, p. 9 .)

A. Are you a direct or an indirect teacher?
B. What is direct teaching?
C. What is indirect teaching?
D. Which type of teaching would you use with a dependent child?
E. Which type of teaching would you use with an independent child?

UNIT II: STUDYING TEACHER AND STUDENT BEHAVIOR

SUGGESTED CONTENT:

V. Conduct feedback procedure for checking attainment of behavioral objectives. (See Appendix H, p. 66.)

VI. Distribute MTAI scores and discuss.

RESOURCES:

1. Johns, Joseph P., "The Relationship Between Teacher Behavior and the Incidence of Thought Provoking Questions by Students in Secondary Schools," Journal of Educational Research, Vol. 62, November, 1968.

2. Macauley, Howard K. and Wolfe, Richard O., "The Dynamics of Interaction--"Who's Got the Closed Mind?" Phi Delta Kappan, Vol. 8, April, 1971.

3. Lippet, E., "Feelings are Important," Childhood Education, December, 1965.

4. Cross, Janet S. and Nagle, John M., "Teachers Talk Too Much," Education Digest, April, 1970, pp. 22-24.

II - A

CLASSROOM VERBAL CONTROL
(Filmstrip #2)

In any group, someone usually dominates the conversation regardless of the make-up of the group. When two or more persons get together, someone dominates the talk and this person is said to radiate influence as he does most of the talking.

Verbal competitors dominate meetings and conversation because of their intense desire to express ideas. The individual may be enthusiastic about the subject, and possess a superior knowledge of the topic; with this combination, he can control and direct the conversation discussion.

Conversation verbal interaction is a tool people can control, and each individual has a choice of referring to the influence of others or controlling the situation himself.

Spontaniety unintentionally restricts the freedom of conversation of an individual; yet, one may wish to manage the conversation pattern of verbal interaction rather than leave it to chance.

You can plan and control your own verbal behavior. This new self-control can be exercised in the classroom as this is a most obvious setting for you as a conscious and authoritative figure.

Teachers can exert verbal control in the classroom, and they should control this verbal behavior according to the teaching methods that they have found to be successful. Control of verbal behavior aids successful teaching; consequently, verbal self-control becomes a tool for teachers. However the big question is, "What changes can teachers make in their own verbal behavior?"

The verbal pattern can be changed. For example, verbal pattern can be changed from lecture to discussion as the teacher releases some of his control and increases that of the student. This creates more indirect teaching through student interaction in discussion. The teacher's influence is still present and can be periodically exerted as one visits with groups.

Patterns of classroom behavior require adaptation to/of the teacher's verbal behavior. The teacher adjusts to these patterns by becoming more direct or indirect in his own behavior. In this manner the teacher can expand or restrict student freedom.

DIRECT INFLUENCE:

There is more dominance by teacher and less student freedom. Sometimes it is used to bring a learning problem into sharper focus as well as used for review. It may also produce dependence when goals are unclear and independence when goals are clear.

INDIRECT INFLUENCE:

The teacher relinquishes some control and allows students to work more on their own initiative. Here students are becoming more involved in the learning activity. This does not mean lack of control but a more subtle technique for guiding behavior of students. This stimulates participation, encourages teacher-student planning, and personality needs are met when the goals are clear.

There are other kinds of controls, but they all affect student freedom in some way. Some students want their freedom restricted or desire direct teacher influence while others want their freedom expanded or desire indirect teacher influence. The teacher's self control of verbal behavior is a result of conscious planning. There are times to be direct and times to be indirect, and the teacher must plan according to the activity and the needs of the students. In moving from direct influence to indirect influence, the teacher accepts and expands upon student ideas thereby encouraging student freedom as she also rewards and encourages class participation.

Observe the feeling of greater success as you control your own verbal behavior, and look at the practical results of direct and indirect teacher influence. (You will also perceive the effects on student freedom which is exerted by the formation of classroom organization.)

Note that individual differences between students account for some of the reasons why students react differently to teachers. This will help you to determine why some boys and girls seem to want direct teacher influence and others indirect teacher influence. Research shows that this can be traced to some personality needs of youngsters. Some are more dependent upon teacher help while others enjoy working independently.

Some students are dependent prone and others are independent prone, and knowing this difference is important to the teacher in the control of her verbal behavior.

The teacher may need to be direct with dependent youngsters because they need to rely more on others, especially the teacher. While she will also be more indirect with independent youngsters, she will not always wish to control her verbal behavior to match the personality needs of individual students.

Sometimes the teacher should jolt highly independent children into acquiring more dependence on guidance and instruction. Dependent prone boys and girls should gradually acquire more independence so that they may develop their skills and initiatives.

How students view dependence or independence is or may be a matter of self-confidence. It would seem obvious that a youngster who exhibits emotional insecurity based on timidity and fear would have a strong need for teacher support and approval. He would react differently than the independent youngster to the same instructions or instructor.

We should try to identify or recognize the characteristics of the extremely dependent/independent prone student. The more extremely independent prone students may actually resist the teacher's intervention. They may wish to be left alone so that they can continue with their work.

Dependent and independent prone students see authority figures differently. Teachers can establish better control with their students by recognizing the unique personality needs of dependent/independent prone youngsters and then tailor their own verbal behavior to these needs.

Students are often unclear about learning goals. The clarity or lack of clarity about learning goals will exert a great influence on a teacher's decision in using direct or indirect influence.

Direct influence, when goals are unclear, usually encourages dependence on the part of students. Restricting student freedom, when the boys and girls are uncertain or undecided about the learning task, stimulates their dependence upon the teacher's guidance. Conversely, when students realize what is expected of them, direct eacher influence often stimulates learning without producing unwanted dependence.

The teacher will want to analyze the extent of goal clarity as well as the student's personality needs before deciding whether to be direct or indirect. These considerations are important to the teacher who plans the control of his own behavior.

UNIT III: FLANDERS INTERACTION ANALYSIS SYSTEM

PURPOSE: To teach the categories of teacher-student verbal interaction as used in Flander's Interaction Analysis System.

OBJECTIVES:

1. The participants will be able to state orally that the two areas of verbal interaction are teacher and student talk as measured by the instructor's observations.

2. The participants will be able to list at least seven (7) of the ten (10) categories for interaction analysis as measured by a feedback questionnaire.

3. The participants will state in writing an answer to the question: "What is your opinion about the value of studying the categories of verbal interaction?"

SUGGESTED CONTENT:

I. Discuss methods for analyzing verbal interaction.*

II. Show Filmstrip No. 3, "Categories of Verbal Interaction."

III. Duscussion Questions for Follow-up of Filmstrip No. 3. (See III-A, p. 23; III-B, p.16 ; and IV-B, p. 22.)

   A. What is the difference in direct influence and indirect influence?
   B. What are the categories of verbal interaction that expand student freedom?
   C. Which categories are examples of good teaching and which are examples of bad?
   D. When does one need to lecture?
   E. How can information be conveyed to students without lecturing?
   F. Why would it be beneficial to study and analyze teacher-pupil verbal interaction? (See III-B, p. 16.)
   G. How would it help if we could record these contacts? (See III-B, p. 16.)

IV. Follow feedback procedure for checking attainment of behavioral objective. (See Appendix I, p. 67.)

RESOURCES:

1. See Bibliography, "Interaction Analysis," p. 49.)

*Read "Interaction Analysis," Phi Delta Kappan, June, 1969, pp. 587-590.

III - A

CATEGORIES OF VERBAL INTERACTION
(Filmstrip #3)

Examples of indirect influence are those teacher statements that tend to expand student freedom. Those teacher statements that tend to restrict student freedom are examples of direct influence. Neither are good or bad as the most successful teachers achieve a balance in their teacher/student contact by using both direct and indirect influence.

These ideas of direct and indirect influence can be useful to teachers only if we have some way of telling when these acts of influence occur. Since many teachers have difficulty in knowing when they are being direct or indirect, we need some objective means for identifying the types of influence exerted in the classroom - We need to be able to analyze classroom influence.

We need a system that classifies statements by teachers and students. A system is needed that records the differences between lecturing, asking questions, and other ways teachers help their pupils learn.

TEACHER TALK

Indirect Influence

Accepts and Clarifies Feelings
- Teacher deals with emotions instead of ideas.
- Teacher helps students mature emotionally when he accepts and clarifies their feelings on a constructive and non-threatening way.

Praises and Encourages
- Praise takes several forms but the most common is the kind followed by an explanation.
- Encouragement is a more typical teacher statement than praise and is a powerful indirect influence.
- Encouragement recognizes student accomplishment and says you are on the right track so keep going.
- Everyone needs some encouragement - usually this is student action followed by teacher support.

Accepts and Clarifies the Student's Ideas
- Accepts contributions of class members as being worthy of consideration.
- Gives the student the feeling that their ideas are sensible by making use of them.
- Helps a particular student clarify what he means.
- Expands student freedom by acknowledging student initiative.
- Expands student contribution and relates it to other questions which stimulate participation.

TEACHER TALK

Indirect Influence

Questions

When teachers ask questions they relinquish some of their control. They allow students more freedom to act and to respond.

Teacher increases and stimulates class participation by a series of questions along with increased student freedom.

Narrow question provides a slight increase in freedom while a broad question provides a greater increase.

Broad questions might be: What should we do next?
What is your opinion about that?
How should we complete our work?

Direct Influence (Teacher statements that exert Direct Influence)

Lectures

Teacher's role is to impart information
Most straightforward method
Form of direct influence
Students remain quiet and attentive
Student freedom is restricted
Most frequently occuring category in classroom communication
Provides focus on a particular segment of content/concept
Expresses the speaker's point of view

Commands

Similar to requests
Followed by compliance
Students comply and freedom is restricted
Examples: Clear desk, open books, erase board, do an assignment
Response to quiery or question the teacher gives explicit and authoritative answer

Criticises

Common type of teacher statement to discipline and re-direct students learning activities
Not always elaborate but a remark made in passing such as slight scolding

STUDENT TALK

Response

Student statements that are responses to the teacher - Student has been asked a question or instructed to say something. Student freedom to express himself restricted.

Initiated

Statements that are initiated by the student. The student has more freedom to speak; he talks because he wants to; and the idea is his.

Silence or Confusion: No verbal communication is taking place when either occur.

We must analyze in detail the various kinds of teacher/student verbal contacts.

Classroom observers can be trained to classify teacher/student statements according to our categories of interaction.

On the scene observations can be conducted in classes and the results discussed in conference with the teachers involved. These observations reveal inter-action patterns in a new light and the teacher gain insight into their own individual styles of teaching.

The ten (10) categories of teacher/student interaction help describe the consequences of our class behavior and provide us feedback. This feedback informs us as to whether our attempts toward better pupil contacts are successful.

You can make practical and helpful uses of the ten (10) categories of statements. They can become your own means of getting feedback, of getting the vital information you need to establish more effective pupil contact.

We are concerned about what the teacher does with his talk; what kinds of statements he makes; and what kinds of influence he exerts.

We wish to analyze these acts of influence. We want to learn about the different kinds of teacher statements that comprise direct and indirect influence as well as how students respond to these teacher statements.

III - B

OBSERVING AND RECORDING CLASSROOM INTERACTION

Interaction analysis may be defined as a systematic procedure for observing and recording classroom interaction.

Flanders (1965) has developed a technique which quantifies the various verbal statements of both teachers and students. The model upon which the system was built concerns itself with distinguishing those teacher behavior patterns which tend to increase students' freedom to act (indirect) as opposed to those teacher behavior patterns which tend to decrease students' freedom of action (direct).

In addition, Flanders' Interaction Analysis System (1963) provides information to teachers concerning their own behavior in order that they might develop proper social skills for managing and controlling the classroom. Some of these social skills are the ability to (1) accept, clarify, and make constructive use of ideas and feelings expressed by students, (2) summarize in a discussion as a method of guiding inquiry, (3) ask broad or narrow questions and have the insight to predict the consequences of using either, and (4) use patterns of teacher behavior which are rarely taught in teacher preparation or in-service training courses.

References:

1. Flanders, N. A. Teacher Influence, Pupil Attitudes, and Achievement. U. S. Office of Education Cooperative Research Monograph No. 12, Washington: U. S. Government Printing Office, 1965.

2. Flanders, N. A. Basic and Applied Research Proposal. A proposal submitted to the U. S. Commissioner of Education under the Provisions of Public Law 53. Ann Arbor, Michigan: School of Education, the University of Michigan, 1963. (mimeographed)

The reliability of the data used in any given analysis is assured through the establishment of a set of ground rules. These ground rules in turn provide a group of observers with guidelines which can be used to classify or record student affective behaviors. For example, a category for observation might be "The student is courteous." There are many definitions of the word "courteous." Consequently, if the group of observers is to be relisble in determining whether or not they have observed and recorded this behavior, they should establish a ground rule defining precisely that they will label as courteous behavior. (See "Ground Rules", p. 23.)

In summary, observation systems can provide many insights into the educational setting. However, if these insights are to be valid, much preparation and planning must be carried out prior to the actual use of the observation system.

UNIT IV: ANALYZING CLASSROOM VERBAL INTERACTION

PURPOSE: To teach and give practice in coding.

OBJECTIVE: The participants will be able to code teacher and student talk according to Flander's Interaction Analysis System with 80% accuracy when presented with a list of teacher and student statements in written form.

SUGGESTED CONTENT:

I. Participants complete first Participant Reaction Sheet. (See Appendix F, p. 64 .)

II. Teach coding and introduce matrix.

A. Show Filmstrip No. 4 down through coding but not last part on entering codes in the matrix.

1. Discussion Questions for Filmstrip No. 4 (See IV-A, p. 19; IV-B, p. 22.)
   a. What are the three main categories of verbal interaction?
   b. What are the two areas of teacher talk?
   c. Who can recall the names and numbers of the categories?

B. Practice Coding

1. Refer to teacher statements. (See IV-D, p.25 .)
   a. Code statements.
   b. Check with answer sheet (See IV-E, p.26 .)
   c. Discuss.
2. Refer to teacher-student statements. (See IV-F, p.27 .)
   a. Code statements.
   b. Check with answer sheet. (See IV-G, p.29 .)
   c. Discuss.
3. Play first episode. (See Appendix B, Item 14, p.53 .)
   a. Code from tape recorder.
   b. Discuss.
   c. Check with coded manuscript. (See Appendix N, p.74 .)

III. Summarize

RESOURCES: See Bibliography, "Interaction Analysis," p. 49 .

CODING VERBAL INTERACTION
(Filmstrip #4)

Ten categories of classroom interaction can be used to provide the teacher with feedback information about his own behavior. They are helpful in establishing new ways of student contact.

The categories of influence can be represented in a numerical form that the teacher can use. It will also show how the categories can be implemented. The recording can be done in an easy to understand way of the patterns of classroom influence characteristic of different teachers.

Throughout the day these 10 categories of interaction are heard for varying amounts of time. They result in patterns of influence that are characteristic of a particular teacher working with a particular class on a specific task.

These records can be used to capture each teacher's style of influence so that the teacher himself may be better able to study his behavior. Thus we need a system to record the incidence of talk within the 10 categories of classroom influence. These are as follows and the code number appears to the left of each term:

1. Accept feeling
2. Praise
3. Accept idea
4. Question
5. Lecture
6. Commands
7. Criticize
8. Student responds
9. Student initiates
10. Silence

The observer sits in the classroom during the teacher/student classroom activity and jots down code numbers at regular time intervals, say 3 seconds. The next task is to translate this list of numbers into a form that will reveal each teacher's pattern of influence.

A 10 x 10 table is used to summarize the findings. This consists of 10 rows for horizontal recording and 10 columns for vertical recording of the 10 categories of influence. It is necessary to use pairs of numbers in order to locate the cell that indicates the pattern of influence. The records in the rows seems to represent the initiation of the influence and the column represents the response.

As we move from cell to cell, we not only record what category of classroom influence that occured but we also indicate the direction of influence. You cannot tell much about a teacher's individual style of verbal behavior from a brief example. Teacher influence patterns do not begin to emerge until after 20 minutes or more.

Patterns of influence or characteristic style are revealed by the matrix column totals at the bottom. It is from these figures that we can determine the proportions of teacher talk and student talk that are combined to create total classroom communication.

Columns 1-7, 8-9, 10 can be converted to a percentage figure to represent the percentage of time these type influences are being exerted. The grand total, located in the lower right hand corner, indicates the total number of tallies. This divided by the interval provides the total time of classroom interaction recorded.

One can analyze further the nature of teacher talk by looking at column totals 1-4, 5-7 as these show the proportion of direct and indirect influence. The total tallies of indirect influence placed over or divided by the total tallies of direct influence gives the I/D ratio. This is a simple statistic which tells a great deal about the teachers individualistic pattern of influence. The typical ratio is about .2, and 1.0 is very high which indicates a high proportion of indirect influence.

Columns 1,2,3 are positive emotional factors of teacher/pupil contact and are the indirect statements that recognize the students feelings. This is social lubrication in the classroom that tends to draw students into full participation thereby increasing their freedom of action.

Area 6, 7 are teacher statements that focus on learning task or the wishes of the teacher. These statements seek compliance by commanding, criticizing or justifying authority. In contrast, the impact of statements found in area 3 stress teacher's authority as he directs classroom activities - This is direct influence.

Row 8-9 show how student talk is handled by the teacher. From the tallies in these rows we can learn whether the teacher focuses attention on students' contributions or whether the teacher's remarks serve to shift the spotlight back to himself.

If silence follows student talk, then we know the teacher largely ignores contributions from the class.

If teacher often follows student talk with commands, he is giving further directions and restricting the alternatives/responses of the boys and girls.

If teacher responses to student talk are located in column 1-3, we know student participation is being encouraged. This is also substantiated in rows 8-9, column 2-3.

It is common to find a high number of tallies in column 4-5 as the teacher follows student talk by asking more questions or giving his opinion on a topic.

Column 4-5 and row 4-5 form a cross-like area in the matrix that normally receives a heavy loading of tallies. This is the matrix area representing teacher statements that focus on the intellectual aspects of classroom interaction. These categories of verbal behavior promote subject matter learning or make the content cross.

The interaction matrix is not a jumble of cold statistics but a series of revealing patterns that help summarize the characteristic ways in which individual teachers interact with their students.

The usefulness of the process of inter-action analysis will depend on your willingness to work closely with the classroom observers. Using tools described, you and your observer can determine whether your teaching intentions are being met or not.

IV - A

Interaction analysis is your means of recieving feedback about the affects of exploring new ways of establishing teacher student contacts. You are equipped to personally and objectively evaluate your own verbal behavior.

It is also an observation procedure designed to minimize difficulties in observations, permit a systematic record of spontaneous acts, and scrutinize the process of instruction by taking into account each small bit of interaction.

This system is concerned with analyzing the influence patterns of the teacher and the purpose is to record a series of acts in terms of pre-determined concepts. The concepts in this case refer to the teacher's control of the students' freedom of action. Our interest is to distinguish those acts of the teacher that increase the students' freedom of action and to keep a record of both.

This process concerns itself with an attempt at abstracting the intent of an act from the act itself. The observer must judge whether an act increases or decreases the students' freedom of action, and he is not necessarily concerned with the conscious intent of the teacher.

IV - B

SUMMARY OF CATEGORIES FOR INTERACTION ANALYSIS*

TEACHER TALK	INDIRECT	Response	1. ACCEPTS FEELING: accepts and clarifies an attitude or the feeling tone of a student in a nonthreatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included. 2. PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, but not at the expense of another individual; nodding head, or saying "um hm" or "go on" are included. 3. ACCEPTS OR USES IDEAS OF STUDENTS: clarifies, builds, or develops ideas suggested by a student. Teacher extensions of student ideas are included but as the teacher brings more of his own ideas into play, shift to category five.
			4. ASKS QUESTIONS: asks a question about content or procedure, based on teacher ideas, with the intent that a student will answer.
	DIRECT	Initiation	5. LECTURES: gives facts or opinions about content or procedures; expresses his own ideas, gives his own explanation, or cites an authority other than a student. 6. GIVES DIRECTIONS: directions, commands or orders to which a student is expected to comply. 7. CRITICIZES OR JUSTIFIES AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
STUDENT TALK		Response	8. STUDENT-TALK--RESPONSE: talk by students in response to teacher. The teacher initiates the contact or solicits student statements or structures the situation. Freedom to express own ideas is limited.
		Initiation	9. STUDENT-TALK--INITIATION: talk by students which they initiate. Expressing own ideas; initiating a new topic; developing opinions and a line of thought, like asking thoughtful questions; going beyond the existing structure.
SILENCE			10. SILENCE OR CONFUSION: pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

*There is NO scale implied by these numbers. Each number is classificatory; it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

IV - C

GROUND RULES FOR CODING INTERACTION ANALYSIS *

Categorizing teacher verbal behavior is often times a difficult process; therefore, ground rules have been established to aid in developing consistency while coding.

1. When there is doubt in which of two or more categories a statement belongs, the category that is numerically farthest from category 5.

2. If the primary tone of the teacher's verbal behavior has been consistently direct or consistently indirect, do not switch into the opposite classification unless there is a clear indication of shift by the teacher.

3. While coding, the observer must not be overly concerned with his own biases or with the teacher's intent; he must ask himself the question, "What does this behavior mean to the pupils as far as restriction or expansion of their freedom is concerned?"

4. A category number is recorded a minimum of every three seconds. If the participant changes categories, or if more than one category occurs during the three-second interval, then all categories used in the time period are recorded.

5. Directions (category 6) are statements that result (or are expected to result) in observable behavior on the part of children.

6. When the teacher calls on a child by name, the observer ordinarily records a 4.

7. If there is a discernible period of silence laughter, board work, etc., (at least 3 seconds), the observer records one 10 for every 3 seconds.

8. When the teacher repeats a student answer that is correct it is recorded as a 2.

9. When the teacher repeats a student idea and communicates only that the idea will be considered or accepted as something to be discussed, it is coded as a 3.

10. If a student begins talking after another student (without the teacher's talking), a 10 is inserted between the 9's or 8's to indicate that different students are talking.

* Flanders, Ned A. Interaction Analysis In the Classroom, Ann Arbor, University of Michigan, 1966.

11. Statements such as "uh huh, yes, yeah, all right, okay," which occur between two 9's are coded with a 2 (encouragement).

12. A teacher joke, which is not made at the expense of the children, is coded as a 2.

13. Rhetorical questions are not really questions; they are merely part of lecturing techniques and should be coded as 5's.

14. A narrow question generally indicates that an 8 will follow.

15. When several students respond in unison to a narrow question, an 8 is recorded.

IV - D

TEACHER STATEMENTS FOR PRACTICE CODING

Read the following statements made by teachers to students and classify them according to Flanders' categories. Write the answers on the blank lines.

_____ 1. "Clean off your desk."

_____ 2. "I understand just how you feel."

_____ 3. "What are some things that happen with static electricity?"

_____ 4. "John, would you like to read the sentence on the board?"

_____ 5. "What causes lightening?"

_____ 6. "Sometimes there are relatives who can give you some information about your ancestors."

_____ 7. "That's a good point!"

_____ 8. "Michael, if you're so smart, what is the answer to Joe's question?"

_____ 9. "I'm glad you pointed that out. Very good."

_____ 10. "You said there are seventy-five counties in the state, but can you tell me how many county seats there are?"

_____ 11. "How much is ten times ten?"

_____ 12. "For the last time, I'm telling you to be quiet."

_____ 13. "It's a good cause; everyone ought to support it."

_____ 14. "You said yesterday that we have too much pollution."

_____ 15. Look at the pictures on page twenty.

IV - E

ANSWERS TO TEACHER STATEMENTS

6 1. Directions to which students are expected to respond.

1 2. Teacher lets student know his feelings are acceptable.

4 3. A question on content.

6 4. Polite directions to which students are expected to respond.

4 5. A broad question based on content.

5 6. Teacher relaying information to students in lecture form.

2 7. Teacher praises a response.

7 8. Student being criticized because of his response.

2 9. Praise for student thought.

3 10. Accepting a student answer then using it to ask another question.

4 11. Question asked with the intent of receiving a definite answer.

7 12. Criticism of student behavior.

5 13. Teacher expressing her own thoughts coded as lecturing.

3 14. Making use of previous student remark.

6 15. Directions given with intent that students respond in some way.

IV - F

TEACHER AND STUDENT STATEMENTS FOR PRACTICE CODING

____ 1. (T) Was there any representation in Parliament? What was the situation there, Jack?

____ 2. (S) Well, the Estates General hadn't been called into session since 1614. They didn't have much representation there at this time.

____ 3. (T) Good!

____ 4. (T) What time are we talking about right now?

____ 5. (S) Around 1789.

____ 6. (T) Around 1789, Good!

____ 7. (T) Why did Louis the 14th call the Estates General? Charles?

____ 8. (S) They were broke.

____ 9. (T) Why didn't he go out and set up more taxation?

____ 10. (S) He couldn't get more money, the people were broke too.

____ 11. (T) Okay, that's right.

____ 12. (S) If he couldn't get money from the lower class, why didn't he get money from the nobles and the churches?

____ 13. (T) That's a good question. Can anyone answer it?

____ 14. (S) That's what they wanted him to do.

____ 15. (T) Okay.

____ 16. (T) Now can you imagine what happened next without opening your books?

____ 17. (S) Silence.

____ 18. (T) Jack, will you read aloud on page 267?

____ 19. (T) You were not supposed to have your books open during discussion, but some of you did. Don't let it happen again.

____ 20. (T) What about petitions? Have you had any experiences with petitions?

21. (S) Laughter.

22. (T) What petitions have been circulated around here lately?

23. (S) About the dress code, shirt tails out, hair cuts, etc.

24. (T) I hear there is a petition about each one of them.

25. (T) I believe petitions can be a very good way of informing the right people about the feelings of a group of people.

IV - G

ANSWERS TO TEACHER AND STUDENT STATEMENTS

4 1. Teacher asks a narrow question on content.

8 2. Student responds with expected answer.

2 3. Teacher praises correct answer.

4 4. Teacher asks a narrow question on content.

8 5. Student responds with expected answer.

2 6. Teacher praises by repeating correct answer.

4 7. Teacher asks a narrow question on content.

8 8. Student responds with expected answer.

4 9. Teacher asks a narrow question on content.

8 10. Student responds with expected answer.

2 11. Teacher praises correct answer.

9 12. Student initiates his own thought in the form of a question.

3 13. Teacher accepts student idea then uses it.

9 14. Student expresses his opinion in answer to student questions sometimes words like "okay" and "all right" are used as transitions or habit, therefore they are coded the same as following statements.

2 15. Teacher praises correct answer.

4 16. Teacher asks broad question.

10 17. Teacher allows time for student thought.

6 18. Teacher gives directions in the form of a question. Student is expected to respond.

7 19. Teacher replys sternly to improper behavior of students.

4 20. Teacher asks a broad question.

10 21. Confusion or lack of communication if lasting 3 seconds or more.

4 22. Teacher asks broad question.

9 23. Student expresses his own thought in reply.

3 24. Teacher accepts and uses student answer by expanding answer.

5 25. Lecturing when a teacher expresses her own opinion.

UNIT V: INTERPRETATION OF MATRIX

PURPOSE: To teach the participants how to use and interpret the matrix.

OBJECTIVES:

1. After entering codes into the matrix, the participants will be able to compute totals and percentages for both teacher and student talk as measured by a matrix problem.

2. The participants will be able to interpret their observations of the matrix as measured by their ability to write five statements from their observation of verbal interaction shown by the matrix.

SUGGESTED CONTENT:

I. Show last half of Filmstrip No. 4: Interpretation of Matrix. (Show only last portion starting with the matrix.)

A. Application of Filmstrip No. 4. (See IV-A, p. 19.)
1. How are numbers entered into the matrix?
a. Distribute eleven sample coding numbers and lead participants through entering them on a sample matrix. (See V-B, p. 33.)
b. Distribute problem sheet. (See V-C, p. 34.)
2. What can be done with this matrix that has the tallies entered? (See IV-A, p. 19.)
a. Total rows and columns.
b. Total indirect, direct, teacher and student talk.
3. How is percentage for each column computed?
4. Explain ID ratios and computations.
5. Explain 3% rule and computations.
6. Explain steady state cells (See V-G, p. 39.)
7. Explain transitional cells (See V-G, p. 39.)
a. Rows initiate.
b. Columns receive.
8. Illustrate content cross. (See V-G, p. 39.)
9. Discuss vicious circle. (See V-G, p. 39.)
10. Discuss social lubrication area. (See V-G, p. 39.)

B. Apply matrix interpretation skills to V-D, p. 35.
1. Distribute V-D and blank matrix.
2. Ask participants to enter tallies and total matrix following order of previous outline A, 1-10.
3. After sufficient time refer to V-E, p. and help complete all computations used in previous outline
4. Ask each participant to write five interpretations using the questions in Auxiliaries V-F, p.37 and V-G, p. 39.

II. Schedule second video-taping. (See Appendix A, p. 52.)

III. Filmstrip No. 5 may or may not be shown. (See V-A, p. 31.)

RESOURCES: See Bibliography, "Interaction Analysis," p. 49.

V - A

INTERPRETATION OF MATRIX
(Filmstrip #5)

Interaction analysis can aid teachers in planning better student contacts. You are now familiar with the concepts of direct and indirect influence, how they may be used to encourage and invite dependence and independence, and you are familiar with the categories of classroom communication.

These things are more valid whenever they occur under spontaneous and unrehearsed classroom situations in which students may be planning a classroom activity. Experience with a particular type of planning over a period of time results in a rather mature attitude on the part of the students toward a given task.

Direct and indirect influence is restricting and expanding student freedom. Indirect influence is comprised of teacher behavior that tends to encourage fuller student participation and freedom of action.

Indirect influence is not a lack of control but a more subtle kind of control It is at the same time more subtle and more powerful because it rests on a system of emotional rewards and punishments controlled by the teacher.

Indirect influence occurs when the teacher selectively reinforces the student's ideas. This selective reinforcement occurs in several stages.

1. The teacher stimulates class participation in the learning activity by asking questions, accepting and clarifying answers and praising youngsters for useful contributions.

2. The teacher selects the most promising contributions for a further development, that is, she selectively reinforces student behavior that she thinks will be the most useful to the class.

3. The teacher manages the discussion by moving to a new topic while making use of class agreement. Under these conditions selective reinforcement is a method of guiding classroom learning activities.

The teacher may select and reinforce certain student ideas but may pass over others. Skill may not only be evident by the questions one may ask but by the manner in which you clarify the student's answers. Certainly, then, <u>indirect influence must be considered as good classroom management.</u>

The initial job of the teacher is to stimulate class contributions and this can be done in several ways. A teacher's statement that allows students the widest choice of alternatives is a broad question. This elicits varied responses and might be phrased as "anyone care to say anything more about this before we go on?"

Too, there is skill in phrasing and asking questions that seek to increase the involvement of each student.

Continued..... 2

The primary task for the teacher when exerting selective reinforcement is to select and develop the appropriate student ideas. The teacher can accept and support a student idea and reinforce it by making it a basis of further class discussion.

There are times when a teacher needs to close off a discussion or withold reinforcement of student ideas. The secret may be to disregard the student's idea in a tactful way.

A third task in selective reinforcement is to move from topic to topic and the teacher is responsible for introducing these transitions. The teacher may use class agreement to move toward a new topic.

These are examples of selective reinforcement that may occur during a teacher-pupil planning session. The teacher needs to assist the student in assuming additional responsibility toward his work at all times.

Always try to fit the task to the right person - share responsibility. Resource material may sometimes be scarce and the teacher has an opportunity to achieve a couple of objectives here. She may wish to point out the needs for resource materials which at the same time may increase the goal clarity and student responsibility.

In this case, goal clarity results because the students are given an opportunity to focus on class requirements and the spot-lighting of the problem encourages the students to provide their own solutions.

V - B

PARTICIPANT_____ OBSERVER_____ DATE_____

MATRIX FOR INTERACTION ANALYSIS

Category	1	2	3	4	5	6	7	8	9	10	Total
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
TOTAL											
%											
of											
Total	Teacher Total							Student Total		Silence	

$\frac{I}{D} = \frac{1+2+3+4}{5+6+7} =$ _____ $\frac{I}{D}_9 =$ _____

$\frac{i}{d} = \frac{1+2+3}{6+7} =$ _____ $\frac{I}{D}_{8,9} =$ _____

V - C

PARTICIPANT _____ OBSERVER _____ DATE _____

MATRIX FOR INTERACTION ANALYSIS

Category		1	2	3	4	5	6	7	8	9	10		Total
1		16	1		5	1				1			
2			3	1	17	1	3			5			
3			1	18	11		1		1				
4		1	5	1	31	2	5	1	19	39			
5					5	6							
6					12		13		2	3			
7					1					1			
8			5		13		2		7	1	1		
9		7	15	11	9	1	4	1		159	5		
10				1			2			3			
TOTAL													
%													
of													
Total		Teacher Total							Student Total		Silence		

$\frac{I}{D} = \frac{1+2+3+4}{5+6+7} =$ _____ $\frac{I}{D9} =$ _____

$\frac{i}{d} = \frac{1+2+3}{6+7} =$ _____ $\frac{I}{D8,9} =$ _____

V - D
Coding Worksheet

10	7	4	7
4	4	10	9
4	4	10	9
8	8	10	2
8	6	9	5
10	8	9	5
9	2	5	5
9	2	9	5
7	5	6	5
9	5	9	5
9	5	9	5
3	4	10	4
3	4	10	4
3	9	7	4
3	9	7	9
3	9	2	9
3	10	3	9
5	9	3	9
5	7	3	9
5	9	5	10
5	2	5	
5	5	5	
6	5	4	
6	5	8	
6	5	8	
7	4	2	
7	4	9	

V - E

ARTICIPANT _____ OBSERVER _____ DATE _____

MATRIX FOR INTERACTION ANALYSIS

Category	1	2	3	4	5	6	7	8	9	10	Total
1											0
2		1	1		3				1		6
3			7		2						9
4				7				3	2	1	13
5				4	17	1			1		23
6						2	1	1	1		5
7		1		1			3		3		8
8		2				1		2		1	6
9		2	1		1	1	3		11	3	22
10				1			1		3	3	8
TOTAL		6	9	13	23	5	8	6	22	8	100
% of Total		Teacher Total						Student Total		Silence	

$\frac{I}{D} = \frac{1+2+3+4}{5+6+7} =$ _____ $\frac{I}{D^9} =$ _____

$\frac{i}{d} = \frac{1+2+3}{6+7} =$ _____ $\frac{I}{D^{8,9}} =$ _____

QUESTIONS FOR MATRIX INTERPRETATION

QUESTIONS USEFUL TO A TEACHER IN INTERPRETING THE MATRIX*

1. Do I do too much of the talking in the classroom?

   The answer to this question can be found by comparing how much you do talk with how much you want to talk.

2. Am I typically a direct or indirect teacher?

   You can check this by comparing the total tallies in the indirect categories with those in the direct categories.

3. How do I react to student verbal behavior?

   You may want to know how direct or indirect you are in your general response to student talk. You may ask, "Do I respond differently to student-initiated statements and to student statements that are teacher-solicited?" There is some indication in the research that teachers whose pupils show high achievement and good attitudes respond as indirectly to one kind of pupil statement as to another, and their I/D ratios for rows 8 and 9 will be about the same.

4. How much time do I spend in lecturing?

   The total number of tallies in column 5 is compared with the total in all columns to find the percentage of lecture occurring. Perhaps a heavy loading in the 5-5 cell, indicating continuous lecture with little opportunity for students to ask questions, may be more cause for concern than merely a high percentage of lecture.

5. Do I spend enough time in the extension of student ideas?

   The extended use of student ideas by the teacher, in addition to the accepting of student ideas, is related to pupil achievement and attitudes. Research indicates that teachers who spend more than 35 per cent of their column 3 time in the 3-3 cell have students with higher achievement scores and more positive attitudes.

6. Do students tend to resist my influence?

   When there are many tallies in cells 6-7 and 7-6 discipline problems are indicated. A large percentage of tallies in column 10 may mean a large percentage of confusion, particularly when most of the tallies occur in the 6-10, 4-10, and 7-10 cells.

* Flanders, Ned A. Interaction Analysis In the Classroom, Ann Arbor, University of Michigan, 1966.

7. Do I accept, clarify, and use student emotion?

   Students do express some emotion in school, and some use of this category is probably desirable in maintaining a good learning climate. A teacher who consistently fails to respond positively to student emotion may be lacking in ability to empathize with students or may lack the skill necessary for communicating that empathy or feeling to the class members.

8. How effectively do I use praise?

   The way in which praise is used, not the amount of total praise, is the crucial factor, although either an excess or an exceedingly small amount of praise might well be examined rather carefully. Praise that is related to student talk, particularly when the praise is elaborated to include the reasons for its use, seems to be the most effective kind of praise.

9. How effective am I in communicating subject matter to my pupils?

   Some questions can be raised about the effectiveness of one-way communication. Surely the teacher has some responsibility to elicit active student participation in the learning process. There is some research to indicate that more learning takes place in situations in which students take an active part than in pure lecture situations. A teacher who does assume this responsibility will include questions during the lecture and will allow time for student questions and discussion.

10. How effectively do I use criticism in my teaching?

    Research shows that a positive relationship exists between teachers who use a very limited amount of criticism and high student achievement with superior attitudes. In addition, a positive relationship exists between a teacher's flexibility in use of criticism and superior student achievement and attitudes.

11. Is there adequate pupil participation in my classroom?

    High-achieving classes show more sustained student talk than do lower-achieving classes. More student talk in these high-achieving classes follows indirect teacher influence than follows questions, lecture, direction, and criticism.

PATTERNS FOR MATRIX INTERPRETATION

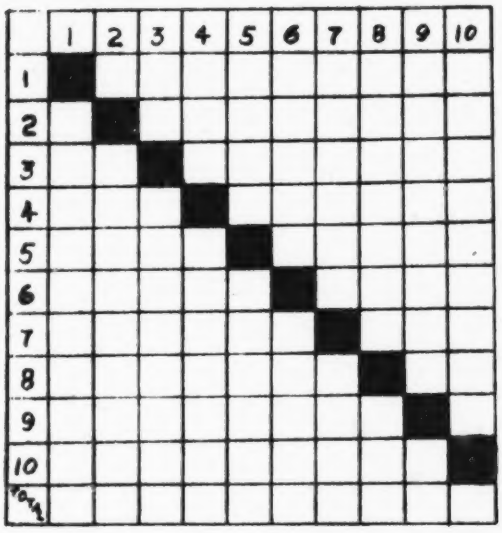

Figure I

STEADY STATE CELLS

The same category of talk extends for more than 3 seconds in the steady state cells.

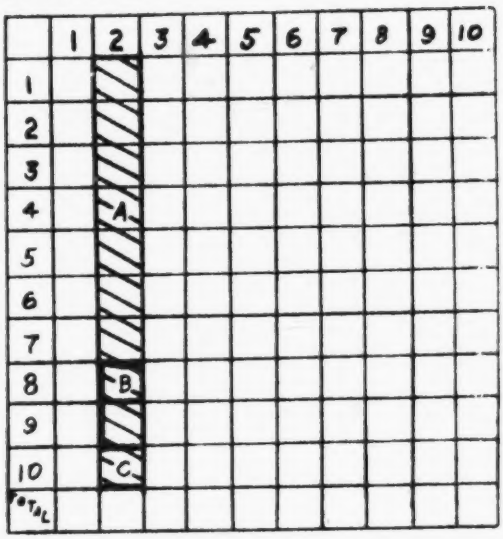

Figure II

PRAISE COLUMN

The way praise is used, not the total amount of praise, is the crucial factor.

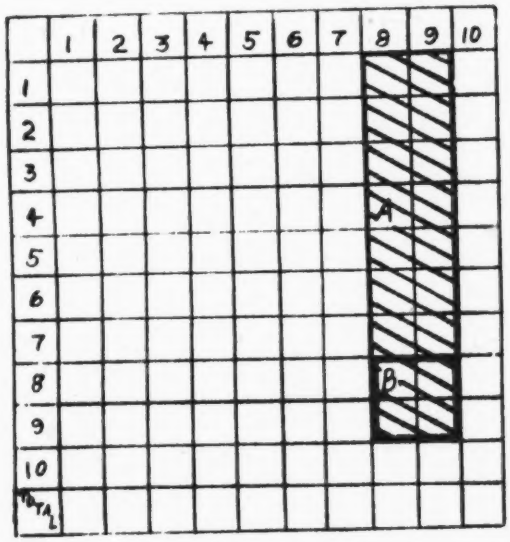

Figure III

STUDENT TALK

AREA A: Solicited and initiated student talk during the first 3 seconds following teacher talk.

AREA B: Extended student talk (8-8, 9-9); and talk among students (8-9, 9-8).

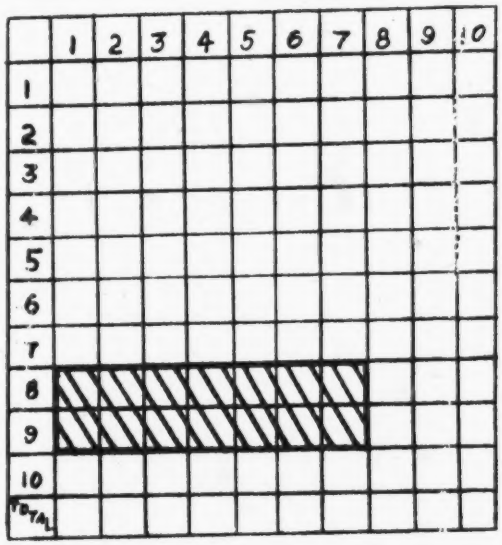

Figure IV

TEACHER REACTIONS

Teacher talk during the first 3 seconds following student talk.

PATTERNS FOR MATRIX INTERPRETATION

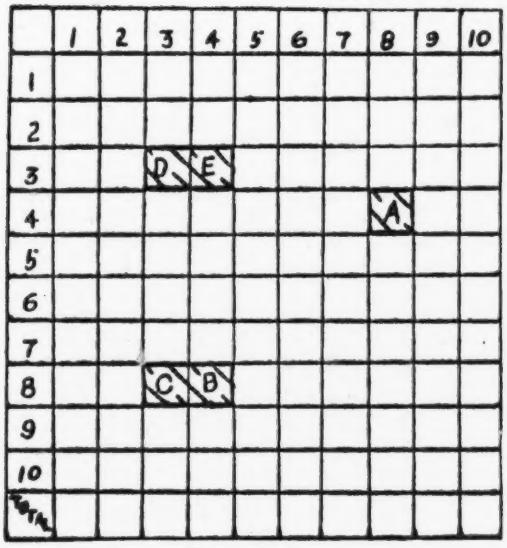

Figure V

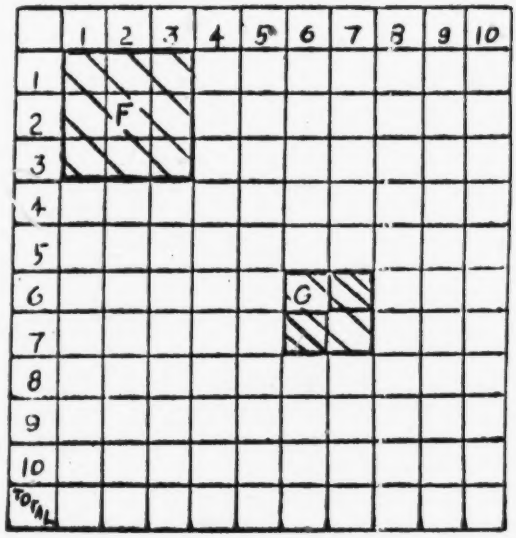

Figure VI

ELEMENTS OF A DRILL PATTERN

A (Cell 4-8) occurs when the teacher asks a short or narrow question

B (Cell 8-4) occurs when the student gives a short answer to successive narrow questions

C. (Cell 8-3) occurs when the teacher begins to clarify or develop the student's answer

D (Cell 3-3) and E (Cell 3-4) occurs as the teacher moves from clarification to asking another question

AREAS OF SOCIAL LUBRICATION AND VISCIOUS CYCLE

F (Cells 3-3 block) occurs when the teacher is very deliberate in giving the student positive reinforcement.

G (Cells 6-7 block) occurs when the teacher continuously reacts negatively to students.

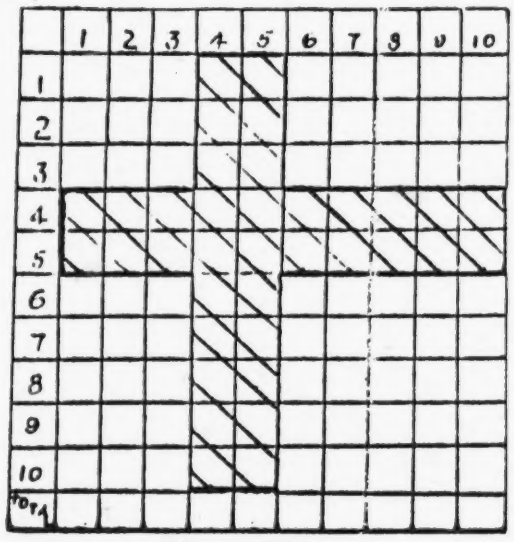

Figure VII

CONTENT CROSS

Develops when largest percentage of interaction is content centered.

UNIT VI: PLANNING

PURPOSE: To teach the participants to (1) identify and combine parts to write an objective; (2) make predictions for classroom interaction; and (3) write a plan for the third video tape.

OBJECTIVES:

1. The participants in the program will be able to write instructional objectives as measured by the application of specifically stated criteria for writing the objectives.

2. The participants in the program will be able to demonstrate their ability to manipulate verbal interaction skills as measured by the similarities of outcomes between the predictions of a matrix and the outcomes of the matrix for the third video-tape.

3. The participants in the program, after receiving instruction for writing objectives, will be able to write a plan for verbal interaction during instruction.

4. Participants will state questions they can use in class that will enable them to affect or change the outcome of the categories on the matrix.

SUGGESTED CONTENT:

I. Complete second Participant Reaction Sheet. (Appendix F, p. 64.)

II. Why make plans?

A. Gives teacher more control of learning.
B. Instills confidence in teacher.
C. Provides some continuity to curriculum.

III. What are changes that you would like to make in the second taping matrix? (Discuss many possibilities and results.)

A. Help each participant complete a trial matrix based on modest improvements in the second tape.
   1. Estimate total percentage for each category.
      a. Teacher
      b. Pupil
      c. Silence
      d. Direct and indirect
      e. Each individual column 1-10
   2. Compute from each column percentage the total number of tallies expected for each category where the grand total of tallies is 400.*

*For instance if estimated student response (column 8) is 20% and total of all tallies is 400, then the estimated tally total of column 8 is 20% x 400=80.00.

UNIT VI: PLANNING

3. Based on the number of tallies in each column, predict the buildup of several obvious cells within the matrix, such as 4-4 followed by 4-9, then 9-9 followed by 9-3.

B. What are some questions you could ask that would affect the categories:
   1. Accept student feelings.
   2. Praise students.
   3. Accept student ideas.
   4. Criticize students.
   5. Involve everyone.
   6. Point out a particular idea.
   7. Initiate student response.
   8. Seek information.

C. What are the two basic types of questions?
   1. What are the characteristics of narrow questions?
      a. They are designed to be factual.
      b. They help the teacher discover what facts the students know.
      c. They lead to a mastery of the knowledge.
   2. What are the characteristics of broad questions?
      a. They are designed for thinking.
      b. They stimulate thought.
      c. They are designed to seek opinions.
      d. They lead to better understanding.

D. What are some questions you could ask that might help bring about the predicted matrix?

IV. Help each participant develop a plan for third video-tape. (See VI-A, p. 44.)

A. The plan requires two teacher and two student objectives.
   1. Ask that one of the changes just made in the matrix be put into a sentence.
   2. Then ask questions about the sentence to make sure all components of an objective are included in the sentence.
      a. Who is changing, (the teacher or the student)?
      b. What is the behavior that will change (questions, lecture, response, or initiation)?
      c. In what subject or content area will the change be made (math, science, reading, discussion)?
      d. How can the change be observed or measured (by matrix analysis)?
      e. What performance (or percentage) is expected?
      f. Assist each participant in writing changes correctly (two teacher objectives and two student objectives).
   3. Explain that the objectives called for in the plan are for outcomes of verbal interaction from matrix analysis and not for content to be taught.

UNIT VI: PLANNING

4. Explain that last minute changes can be made prior to video-taping.
5. Each participant is to bring to the third critiquing session the plan and the predicted matrix.

V. Schedule third video-taping (See Appendix A, p. 52 .)

VI. Complete third Participant Reaction Sheet at the end of the ninth class session or at the beginning of the tenth session, (See Appendix F, p. 64.)

RESOURCES: See Bibliography, "Behavioral Objectives," p. 48 .

VI - A

PLANNING VERBAL INTERACTION OUTCOMES
for the
THIRD VIDEO TAPE

Purpose: To determine the extent that participating teachers are able to control verbal interaction according to a prepared plan. (20 minutes)

Date: _____ Time: _____ Grade: _____ Subject: _____

Content or Topic of Concentration: _____

Teacher: _____

I. Specific objectives for predictions of the matrix:

A. Teacher Talk

1. _____
_____
_____

2. _____
_____
_____

B. Student Talk

1. _____
_____
_____

2. _____
_____
_____

II. Techniques to be used:

III. Teaching aids to be used:

IV. Comments:

UNIT VII: EVALUATION

PURPOSE: To assist each participant in assessing his individual progress and to share verbal interaction techniques through the exchange of video-tapes made by the participants.

OBJECTIVES:

1. The participants in the program will be able to assess their own progress through analysis of pre- and post-evaluation data.

2. The participants will express a positive value for the opportunity in sharing video-tape experiences as measured by their reaction on the final evaluation form.

SUGGESTED CONTENT:

I. Sign-In.

   A. Give third Participant Reaction Sheet if it has not been given yet. (See Appendix F, p. 64.)
   B. An assistant should score this reaction sheet and compare with the mean scores of the two previous reaction sheets.

II. Complete the Minnesota Teacher Attitude Inventory. (See Appendix B, p.54 , item No. 8.)

   A. An assistant should immediately score this inventory.

III. Complete Final Program Evaluation Form. (See VII-A, p. 46.)

IV. Discuss summary of Participant Reaction Sheet.
   1. An overlay can be used to plot the change of attitudes for all three reaction sheets.

V. Discuss pre and post Minnesota Teacher Attitude Inventory individual scores and mean scores.

VI. Share video-tape experiences. Show video-tapes only if permission is granted by the teacher.

VII. We suggest the participants be given some form of recognition upon completion of the program.

VII - A

CENTRAL ARKANSAS EDUCATION CENTER

Self-Improvement Program for Teachers

1. Considering the Program as a whole, how would you rate its value to you?

/__/ Much /__/ Some /__/ Little /__/None

2. Please rate the value to you of the various components of the Program. (Check the appropriate column for each part.)

	Much	Some	Little	None
Video Taping	____	____	____	____
Study of Interaction Analysis	____	____	____	____
Matrix Interpretation	____	____	____	____
Teaching Techniques	____	____	____	____
Lesson Planning	____	____	____	____
Consultant Assistance	____	____	____	____
*Outside Readings	____	____	____	____
*Use of Sociograms	____	____	____	____
*Study of Empathy, Warmth, and Genuineness	____	____	____	____

3. What part did you think was of most value to you? Why?_____

_____

_____

4. What part was of least value to you? Why?_____

_____

_____

5. What changes would you recommend for future sessions?_____

_____

_____

6. Formulate two questions concerning the Program for which you would like answers.

a. Narrow question:_____

_____

b. Broad question:_____

_____

7. Would you recommend this Program to your colleagues? ___Yes___No

(Your signature is not necessary.)

*To be answered by Graduate Students only.

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BIBLIOGRAPHY

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APPENDICES

APPENDIX A

PROCEDURE FOR CRITIQUING VIDEO-TAPES

I. Follow these steps with all three video-taping sessions.

A. First video-tape (20 minutes)
1. Teacher should choose subject and time to be taped.
2. Teacher should select a place of privacy in which to be critiqued.
3. Go to school to critique with equipment (recorder and monitor) in hand.
4. Check with the principal when first arriving and leaving.
5. Show tape to teacher while substitute works with pupils.
6. If teacher consents, show tape to class.
7. Purpose of the first tape and critique is to acquaint teacher and pupils with equipment and reduce tension for second and third tape.
8. Leave Video-Taping Evaluation Instrument (Appendix E, p. 60) with teacher to be filled out and brought to next session.

B. Second video-tape (20 minutes)
1. Teacher should choose subject to be taped. If possible, tape the same students.
2. Students do not see this tape.
3. A critiquing session of two to two and one-half hours in the participant's school should be planned.
   a. Critiquing can be after school;
   b. Or a substitute teacher can relieve the participant of class duties during school hours.
4. Critiquing procedure:
   a. Spend a few minutes talking to relax participant.
   b. Review categories and code numbers (See IV-B, p.22 and IV-C, p. 23)
   c. Practice coding the first few minutes of the tape with consultant helping where necessary to build confidence in coding.
   d. Back up to first part of tape and let the participant code again with the understanding that the recorder can be stopped or backed up to study any part of the episode.
   e. As soon as several columns of coding are completed, consultant starts entering codes as tallies in the matrix.
   f. Consultant continues to help with coding when necessary.
   g. As soon as coding is completed, consultant shows the participant how to transfer the codes into the matrix.
   h. Compute all totals for the matrix.
   i. Compute 3% of total entries and mark the significant cells.
      1. Mark steady state cells with squares.
      2. Mark transition cells with circles.
   j. Plot patterns of talk to indicate greater frequency of verbal interaction.
   k. Assign task for participant to write ten (10) statements of interpretation from the matrix; review examples of interpretation to assist the teacher. (See V-F, p.37 and V-G, p. 39.)

C. Third video-tape (20 minutes)
1. Teacher should choose subject to be taped; same students as before should be used.

CRITIQUING

2. Students do not see the video tape.
3. Schedule two hours for critiquing.
4. Critiquing procedure:
   a. First check lesson plan and predicted matrix.
   b. Review categories and see if practice is needed. (See IV-B, p.22 and IV-C, p.23 .)
   c. Let teacher code the video-tape as before; consultant enters the codes into the matrix until teacher can help.
   d. After the coding is completed, the teacher should view the tape again.
      1. During this time consultant completes all totals and ratios of the matrix.
      2. The consultant may want to use this time to offer direct suggestions to teacher.
   e. Discuss matrix outcomes; if direct suggestions have not been offered by the teacher, take time to give any help necessary to lead teacher to become more indirect and to want to develop independent students.
   f. Compare matrix with second tape matrix.
   g. Discuss assignment to bring to next class:
      1. Both predicted and actual matrix.
      2. Lesson plan.
      3. Ten statements of interpretation (See V-F, p.37 and V-G, p. 39.)
      4. Video-Tape Evaluation Instrument (See Appendix E, p. 60.)

APPENDIX B

SUPPLEMENTARY ACTIVITIES

These activities can be used to enrich the teaching units. If an address for a source is not listed, the material is available for loan from the Central Arkansas Education Center.

VIDEO TAPE PRESENTATIONS:

These video tapes can be scheduled for loan or presentation.*

1. Wm. Glasser: presentation made at Hot Springs Curriculum Conference, 1970.
   Glasser is the author of Schools without Failure. He discusses his background and philosophy. Two tapes are 60 minutes each in length.

2. Allen Cohen: presentation made at Little Rock Reading Conference, 1970.
   Cohen is the author of Teach Them All To Read. He believes everyone can be taught to read and explains how. The tape is 60 minutes in length.

3. "Informal Reading Inventory." An actual inventory administered; the time is 30 minutes.

FILMS

4. "Introduction to the Concept of No-fail." Obtain from Arkansas State Department of Education.

FILMSTRIPS:

Loan of the following material (Item nos. 5, 6, and 7, can be scheduled at no cost from the CAEC office with LP record or cassette tape.

5. "How to Listen to Your Child"

6. "How to Get Your Child to Listen to You," (Stock #058-02178) Two ten (10) minute color filmstrips, two 12" 33 1/3 rpm LP records, and a copy of supporting 16 page booklet. Complete program cost is $15.00. Order from:

   American Education Week
   P.O. Box 327
   Hyattsville, Maryland 20781

   Copies of booklet are available (stock no. 051-02168) at thirty (30) for $2.

*All video presentations at CAEC office are recorded on 1/2 inch Sony video-tape.

SUPPLEMENTARY ACTIVITIES

FILMSTRIPS:

7. "Studying Teacher Influence," is a set of six filmstrips and reel to reel tape used in teaching the Self-Improvement course. The cost is $50.00. Order from:

   Department of Audio Visual Extension
   2037 U. Avenue S.E.
   University of Minnesota
   Minneopolis, Minnesota 55455

EVALUATION

8. Minnesota Teacher Attitude Inventory: This test can be given as a pre- and post-test to evaluate the change in teacher attitude as a result of the Self-Improvement course. Order from:
   The Psychological Corporation
   304 East 45th Street
   New York, N. Y. 10017

9. "Participant Reaction Sheet:" This form is for evaluation of in-service activities; it is administered three (3) times during the normal course. (See Appendix F.)

10. "Final Evaluation Form:" This form is completed by the participants at the final session: (See VII-A, p. 46.)

11. "Basic Teaching Skills" Educational Innovators Press, Inc. 5315 E. Broadway, Tucson, Arizona 84711 - $5.00 per set.

    This programmed set of booklets focuses on: Listening skills, broad and narrow questioning, utilizing student ideas, and structuring responses. Each set of color-coded booklets represents an individual role for each of four participants. CAEC has a sample copy.

12. "What Do You Know About Your Students?" (See Appendix D, p. 58.) A self-evaluation questionnaire that encourages thought and discussion about teacher-student relationship.

13. "Informal Education Spreads Quickly" (See Appendix C, p. 56.)

EPISODE:

14. "Episode No. 1" This is a manuscript and cassette recording of an actual classroom episode. For the manuscript see Appendix N, p. 74.

APPENDIX C

INFORMAL EDUCATION*

"Informal education"--a new approach to schooling-- is spreading quickly across the country. Charles E. Silberman, an editor of Fortune magazine and author of the controversial book, Crisis in the Classroom, told the annual meeting of the American Educational Research Association (AERA) that several thousand U.S. schools are experimenting with the open classroom idea. Advocates of informal education, Silberman said, "begin with a conception of childhood as something to be cherished, a conception that leads in turn to a concern with the quality of the school experience in its own right, not merely as preparation for later schooling, or later life. There is a conviction that learning is likely to be more effective if it grows out of what interests the learner, rather than what interests the teacher." The immediate roots of informal education are in the British primary and infant school movement with an historical foundation in the controversial progressive education movement inspired by John Dewey.

Informal education is a catchall term; it is not yet a firm doctrine. Generally, the term refers to practices in elementary schools but it is also used to describe junior and senior high school experiments like "schools without walls" or "free-form" education, or types of independent study programs. While no two proponents will define the informal education approach the same way, they do share some common outlooks. Their view of how children learn finds a scholarly underpinning in the research of the Swiss psychologist Jean Piaget. Children, according to Piaget, learn through their senses and through constant experimentation and experience. An informal approach tries to individualize learning by removing the lockstep order of a stringent curriculum, class periods, common textbooks, and teacher-directed lessons.

A typical informal classroom has worktables, mats on the floors, child-sized chairs, corners or rooms for science, math, reading, art, woodwork, and other subjects. Ideally, this environment is stocked with materials children can use with little or no direction from teachers. The manner in which teachers and students use this environment differs widely. In some informal classes, students are given absolute free choice in deciding for themselves what they want to do and for how long. But, in most classes, the teacher serves as a catalyst, constantly checking on student progress, intervening to tutor individual children and small groups, and in some cases, giving more formalized reading instruction. Silberman told AERA that informal schools exist in the United States on a small but rapidly growing scale. They exist in North Dakota--in hamlets like Starkweather and Edmore, with populations of 250 and 400, as well as in cities like Grand Forks, Fargo, and Minot. All student teachers at the U. of North Dakota are being trained for informal education. Schools using informal education also exist in New York--most notably in the "open corridor" program which Lillian Weber of the City College of New York began three years ago with five classrooms in a single Harlem elementary school, and which this year exists in some 60 classrooms in six schools in Harlem and in New York city's west side. There are other examples, Silberman siad, in Philadelphia; Tucson; Montpelier, Vt.; and in a Portland, Oreg., high school.

*Education U.S.A., March 1, 1971.

Does informal education improve learning? Silberman admitted that there is no research to show that most children learn more with the new approach, "but they do learn as well--and in some cases better--and in a much happier and more enjoyable way." In addition, he said, children in informal education are more interested in learning, have more capacity to take responsibility and to stick to unpleasant tasks, and take a greater interest in current affairs. To what extent informal education will have a significant impact on American schools remains a debatable question. New York city's public schools, are both urging teachers to consider the informal approach as an antidote to classroom rigidities. Nyquist said he considered the approach the "principal change agent of the future." And U. S. Comr. of Education Sidney P. Marland has said the U.S. Office of Education will support informal education as one of several experimental approaches."

Suggested Activity:

1. Present a timely topic that participants would find interesting to present to other faculties or groups of people. (See Appendix E-2a for an example of a topic.)

   Ask participants to break into groups and plan an effective presentation on the topic. Ask groups to apply for control of verbal interaction during the presentation.

2. Organize for one or more of the groups to present a planned program.

3. Discuss the different approaches and problems of making the presentations.

APPENDIX D

WHAT DO YOU KNOW ABOUT YOUR STUDENTS?

1. How many are reading below expectancy?

2. How many are reading above expectancy?

3. List the six students who are absent most frequently from your classes.

4. To what do you attribute these absences? (Check the applicable categories.)

   a. Health ( )

   b. Truancy (deliberate absences) ( )

   c. The frustration of non-achievement ( )

   d. Parental complacency (lack of parental concern) ( )

   e. Parental imposed responsibilities (babysitting) ( )

   f. Lack of clothing ( )

   g. Other _____ ( )

5. According to test data, list your pupils who are working below expectancy in arithmetic computation.

6. Name the four children who most often respond to your questions.

7. Name the children who make no attempt to respond.

8. To what do you attribute lack of response? (Check appropriate categories.)

   a. Poor communication between pupil and teacher ( )

   b. Pupils' inability to enunciate distinctly ( )

   c. The teachers' inability to ask questions that are meaningful to the pupil ( )

   d. Unintelligible pupil responses that emanate from pupils' background (worsh for wash, tarred for tired, far for fire) ( )

   e. Others _____ ( )

APPENDIX D

Continued-2

9. What percent of your students can work independently?

10. How many contacts have you made with parents concerning:

    a. Outstanding achievement of pupils?

    b. Explaining weaknesses of pupils?

11. List the pupils in your class who are the least accepted by their classmates.

12. What percent of the pupils' day is spent in written activities?

13. What percent of the pupils' day is spent in discussion?

14. What percent of the day is the student permitted a choice in selecting an activity?

15. In working with underprivileged children, assign priority to the following academic list. (1 = most important, 2 = next important, etc.)

    a. Arithmetic ( )
    b. Language ( )
    c. Reading ( )
    d. Social Studies ( )
    e. Spelling ( )
    f. Writing ( )
    g. Other (Specify) ( )

16. If you could project yourself as a member of your class, which child would you choose as a friend?

17. Do you use a seating chart?

18. How many different seats will a pupil occupy during the homeroom period?

19. How many children are represented by work displays on the bulletin board?

20. If you could eliminate one thing from your teaching load, what would it be?

21. With regard to pupil skill acquirement, if you could achieve one academic goal, what would it be?

APPENDIX E

CENTRAL ARKANSAS EDUCATION CENTER

Video-Taping Evaluation Instrument

Participant_____

Consultant_____

Date_____

Time of Day_____ a.m. / p.m. Length of Tape_____ mins.

Number of Pupils_____

Type of Activity_____

Comments:

APPENDIX E

CENTRAL ARKANSAS EDUCATION CENTER

Video-Taping Evaluation Instrument

Participant_____

Consultant_____

Date_____

Time of Day_____ a.m. / p.m. Length of Tape_____ mins.

Number of Pupils_____

Type of Activity_____

Comments:

APPENDIX E

(Please answer all questions)

PART I: Instructional Information

1. What teaching techniques were used?

   a. Question and answers_____
   b. Discussion _____
   c. Lecture _____
   d. Demonstrations _____
   e. Handout sheets _____
   f. Other (Specify) _____

2. Which of these techniques was most effective?_____

3. Which was not effective?_____

4. Which techniques do you wish to improve?_____

5. What teaching aids were used?

   a. Textbook _____
   b. Overhead projector _____
   c. Chalkboard _____
   d. Bulletin Board _____
   e. Other (Specify) _____

PART II: Basic Instructional Questions	Acceptable	Need to Improve	Not Applicable
6. Did the introduction of the lesson build readiness and interest?	_____	_____	_____
7. Did the students seem interested in the lesson?...	_____	_____	_____
8. Did you use leading questions?.....	_____	_____	_____
9. Did the work vary between difficult and easy?.....	_____	_____	_____
10. Could you see evidence of active learning?.....	_____	_____	_____
11. Were the students attentive?.....	_____	_____	_____
12. Did the students have a chance to vary what they were doing?.....	_____	_____	_____
13. Were the students active?.....	_____	_____	_____
14. Did the students seem to be learning?.....	_____	_____	_____
15. Did the students seem to be thinking?.....	_____	_____	_____
16. Did the students seem to be creating?.....	_____	_____	_____

APPENDIX E

Continued-3

PART II: Basic Instructional Questions	Acceptable	Need to Improve	Not Applicable
17. Was there feedback by the students?.....			
18. Was time used for individuals?.....			
19. Did everyone participate?.....			
20. Did the lesson end at a high point of interest?...			
21. Did the lesson show evidence that the students were learning to respond in a group situation?....			
22. Did any one person dominate? (Teacher or student)			
23. Was recognition given even to responses that were wrong?.....			
24. Was this the best time of the school day to present this lesson?.....			
25. Did I have the class prepared to start the lesson smoothly?.....			
26. Did I seem confident with my teaching plan?.....			
27. Did I seem natural in front of the students?.....			
28. How was my enunciation?.....			
29. How was my pronunciation?.....			
30. How was my English usage?.....			
31. How was my posture?.....			
32. How was my manner of sitting?.....			
33. Did my voice show enthusiasm?.....			
34. Did I use certain words or phrases over and over?.			
35. Was I loud enough?.....			
36. Was I too loud?.....			
37. Did the things I intended to emphasize stand out?.			
38. Did I make my directions clear?.....			

APPENDIX E

Continued-4

PART II: Basic Instructional Questions	Acceptable	Need to Improve	Not Applicable
39. Did I get distracted or sidetracked?.....	_____	_____	_____
40. Did I work with the group as a whole?.....	_____	_____	_____
41. Did I overlook any student?.....	_____	_____	_____
42. Did I handle interruptions and discipline effectively?.....	_____	_____	_____
43. Did I move around in the room?.....	_____	_____	_____
44. Was the class too routine?.....	_____	_____	_____
45. In summarizing the session did I accomplish my stated objectives?.....	_____	_____	_____
46. What mannerisms do I need to correct?.....	_____	_____	_____

PART IV. General Evaluation

Briefly describe how video-taping can or has benefited you in the improvement of your teaching processes.

Describe at least two of your major strengths and at least two of your major weaknessess that pertain to the teacher-pupil relationship.

Strengths:

Weaknesses:

APPENDIX E

Continued-4

PART II: Basic Instructional Questions	Acceptable	Need to Improve	Not Applicable
39. Did I get distracted or sidetracked?.....	_____	_____	_____
40. Did I work with the group as a whole?.....	_____	_____	_____
41. Did I overlook any student?.....	_____	_____	_____
42. Did I handle interruptions and discipline effectively?.....	_____	_____	_____
43. Did I move around in the room?.....	_____	_____	_____
44. Was the class too routine?.....	_____	_____	_____
45. In summarizing the session did I accomplish my stated objectives?.....	_____	_____	_____
46. What mannerisms do I need to correct?.....	_____	_____	_____

PART IV. General Evaluation

Briefly describe how video-taping can or has benefited you in the improvement of your teaching processes.

Describe at least two of your major strengths and at least two of your major weaknessess that pertain to the teacher-pupil relationship.

Strengths:

Weaknesses:

APPENDIX F

PARTICIPANT REACTION SHEET
(Do not sign.)

_____
(date)

REACTIONS TO PROGRAM ACTIVITIES: Please indicate how much you value the in-service activities that have occurred so far.

DIRECTIONS

Check one rating, between 10 and 1, for each item unless you have no evidence, in which case check the extreme right hand column.

	HIGHEST VALUE ⟷ LOWEST VALUE										
	Outstanding									Very Weak	
	10	9	8	7	6	5	4	3	2	1	0
1. Demonstration, role playing, or panel discussions											
2. Films, filmstrips, or recordings											
3. Lectures and talks by the staff											
4. Group discussions											
5. Discussions with fellow teachers about the program during the week											
6. Experimentation in your classroom based on the program											
7. Work with critiquing staff											
8. Classroom video taping											
9. Handout materials											
10. Outside reading											

APPENDIX G

UNIT I: FEEDBACK QUESTIONNAIRE FOR UNIT NO. 1

1. Place a check ( ) before the following phrases which were discussed as responsibilities to an in-service education program. Leave blank those phrases which were not discussed.

   _____a. plan together

   _____b. work cooperatively

   _____c. grow professionally

   _____d. improve instructional program

   _____e. design better curriculum

   _____f. think about what is best for students

   _____g. read all relevant material

2. What are five (5) personal instructional problems you would like for this workshop to solve.

3. On less than one-half page, explain what practical in-service education means to you.

APPENDIX H

UNIT II: FEEDBACK QUESTIONNAIRE FOR UNIT NO. 2

1. Place an I before categories representing indirect teaching; place a D before those categories that are direct.

_____a. Questioning

_____b. Criticizing

_____c. Lecturing

_____d. Praising

_____e. Accepting Ideas

_____f. Accepting Feelings

_____g. Giving Directions

2. Usually, should the teacher employ more direct teaching techniques or more indirect teaching techniques when teaching a very dependent prone child?_____. Why?

APPENDIX I

UNIT III: FEEDBACK QUESTIONNAIRE FOR UNIT NO. 3

I. List at least seven (7) of the ten (10) categories of interaction analysis.

a. _____ f. _____

b. _____ g. _____

c. _____ h. _____

d. _____ i. _____

e. _____ j. _____

II. Please state in a sentence or two your opinion as to the value of studying the categories of verbal interaction.

APPENDIX J

ANSWER KEY

I. Answers to Feedback Questionnaire for Unit No. 1. (See Appendix G-1.)

a, b, c, d, f

II. Answers to Feedback Questionnaire for Unit No. 2. (See Appendix F.)

a. I
b. D
c. D
d. I
e. I
f. I
g. D

III. Answers to Feedback Questionnaire for Unit No. 3. (See Appendix I)

1. Accepts feelings
2. Praises or encourages
3. Accepts or uses ideas of students
4. Asks questions
5. Lectures
6. Gives directions
7. Criticizes or justifies authority
8. Student talk-response
9. Student talk-initiated
10. Silence or confusion

APPENDIX K

VIDEO EQUIPMENT COST SUMMARY*

Suggested minimum list for audio recording of classroom verbal interaction:

1	tape recorder	$ 70.00
1	Mike mixer (Bogen model MXGA-T)	50.00
2	Extra Mikes (Olson M-322) @ 4.00	8.00
1 doz.	30 minute cassette tapes #C30 @ 1.29	16.00
	TOTAL	$ 144.00

Suggested minimum list for video tape recording of classroom verbal interaction:

1	½ inch video recorder	$ 850.00
1	Camera with electronic viewfinder	500.00
1	11 inch monitor	236.00
3	Mikes @ 12.00	36.00
1	Mike miser and amplifer	48.00
6	½ inch, 1 hour tapes @ 40.00	240.00
	TOTAL	$1920.00

Optional equipment for video tape recording:

1	Zoom lens for close-up shots	175.00
1	Camera for 2nd camera shots	500.00
1	Switching box (automatic change from one camera to the other)	20.00

*Figures represent costs to C.A.E.C. during 1970.

CENTRAL ARKANSAS EDUCATION CENTER

APPENDIX I

Title III ESEA Project

Sponsored by

Little Rock School District

Dr. Leon L. Wilson
Director

FOR FURTHER INFORMATION

Contact your local superintendent
or the
CENTRAL ARKANSAS EDUCATION CENTER
West Markham & Izard Streets
Little Rock, Arkansas 7220[illegible]
Telephone: 372-0537

CENTRAL AR SAS EDUCATION CENTER

The Central Arkansas Education Center a supplementary service center which is cooperatively created to serve the llowing school districts:

Lonoke County
- Cabot School District
- Carlisle School District
- England School District
- Humnoke School District
- Lonoke School District

Pulaski County
- Little Rock School District
- North Little Rock School District
- Pulaski County School District

Saline County
- Bauxite School District
- Benton School District
- Bryant School District
- Harmony Grove School District
- Saline County School District

The Center is financed by Title III f the Elementary and Secondary Educa- ion Act, funded through the Arkansas tate Department of Education, and dministered by the Little Rock School istrict.

P-U-R-P-O-S-E

The purpose of the Center is to be- come a regional supplementary service center to assist the local education agencies of Central Arkansas in identi- fying and attacking their deficiencies. The Center attempts to serve as a cata- lyst by making available to constituent school districts resources and special- ists to develop innovation, demonstrate worthwhile educational practices, and supplement existing programs.

O-B-J-E-C-T( )-E-S

The broad objectives of the Center are (1) to assist the participating school districts in planning, coordinating, and providing educational services; (2) to facilitate creative educational change; and (3) to serve as a communications link to identify and disseminate information about innovative and exemplary programs.

P-R-O-G-R-A-M-S

The present programs being conducted by the Center are: (1) Self-Improvement Program for Teachers, (2) Mini-Grants for Teachers, (3) Visitation Program for Teachers, and (4) Consultative Services. A short description follows for each of the programs.

Self-Improvement Program:

The self-improvement program for teach- ers consists of three video tapings of each participating teacher while he is actually teaching in the classroom; large group sessions in which participants are taught methods for objectively critiquing teacher-pupil verbal interaction from their own video tapes; and individual sessions in which the participant and a consultant-observer from the Center dis- cuss strengths, weaknesses, and related teaching techniques.

Participants may elect to earn graduate credit through the Graduate School of State College of Arkansas by participating in additional sessions and completing course requirements. All participants who successfully complete the program are granted a certificate from the Center.

Mini-Grants for Teachers: ( )

Grants amounting to a maximum of one thousand dollars ($1,000) are made to teachers who submit proposals for im- proving the instruction of reading. The "idea" submitted by the teacher must be recognized as being unique, original, and exemplary to the Region; include an appropriate evaluation design; and be sufficiently described to be replicated.

Visitation Program:

The Center reimburses a school district for one day of substitute teacher time for teachers who indicate a special need for observing another instructional pro- gram.

Consultative Services:

Various types of consultative services are available to the participating dis- tricts in the areas of planning and development. Evaluation assistance, sta- tistical studies, workshops on individ- ualizing instruction, and instruction in writing behavioral objectives have been the primary services provided.

S-T-A-F-F

Dr. Leon Wilson, Director
Dr. Jim Fain, Program Coordinator
Mr. Otis Preslar, Curriculum Specialist
Mrs. Patricia Perry, Instructional Ass't
Mr. Travis Graham, Video Technician
Mrs.Margaret Kidd, Teacher
Mrs.Kay Berry, Secretary

FOR FURTHER INFORMATION:

Call 372-0537

Exhibit C

SELF-IMPROVEMENT PROGRAM

Summary

Minnesota Teacher Attitude Inventory

The Minnesota Teacher Attitude Inventory is designed to measure those attitudes of a teacher which predict how well he will get along with pupils in interpersonal relationships. According to the rationale and research behind the inventory, the teacher who ranks toward the high end of the scale should be able to maintain harmonious relations characterized with affection and sympathetic understanding, with his pupils. High scores indicate that the teacher and pupils should be able to work closely and cooperatively with a feeling of security resulting from an atmosphere which permits the freedom to think out, and speak with mutual respect for the feelings, rights, and abilities of others.

Scores which lean toward the low end of the scale indicate that the teacher attempts to dominate and rule the classroom with an iron hand thereby creating an atmosphere of tension, fear, and submission. Also, low scores can indicate that the teacher may be unsuccessful, nervous, and distraught in a classroom characterized by frustration, restlessness, inattention, lack of respect, and nervous disciplinary problems. Ridicule, sarcasm, and curt remarks are common. The teacher tends to think and act in terms of his status, the correctness of his position, and the subject matter to be covered rather than in terms of what pupils need, know, and can do.

Over two-hundred teachers, who were enrolled in the Self-Improvement Program during the spring semester of 1971 and the fall and spring semesters of 1971-1972, were pre- and post-tested with the Minnesota Teacher Attitude Inventory.

The table, which follows, summarizes the statistical data and study for this group of teachers.

Elementary teachers with a bachelor's degree gained 18 percentile points between pre- and post-testing. Similarly, elementary teachers with a master's degree, secondary teachers with a bachelor's degree, and secondary teachers with a master's degree gained 12, 21, and 19 percentile points respectively. In each instance, the statistical treatment found that the gain was significant. The gain, except for elementary teachers with a master's degree, was enough to move the group across the fiftieth percentile. As the percentile scores shifted from the low end of the scale toward the high end of the scale, there is every indication that these teachers--as a group--have made attitudinal changes which tend to increase the chances for students to learn.

SELF-IMPROVEMENT PROGRAM
Minnesota Teacher Attitude Inventory

Teachers and Training	Mean Raw Score		Percentile Scores			t-value* required for significance	t-value obtained
	Pre-	Post-	Pre-	Post-	Change		
(1) Elementary Bachelors, N = 73	35.3	57.1	34	52	18	1.671	6.836**
(2) Elementary Masters, N = 13	34.2	49.5	32	44	12	1.782	2.639**
(3) Secondary Bachelors, N = 92	29.1	56.0	49	70	21	1.671	11.281**
(4) Secondary Masters, N = 35	42.0	64.6	49	68	19	1.697	5.648**

*A difference-score method t-test was applied to the raw scores; significance was determined at the .05 level for a one-tail test.

**Significant t value.

APPENDIX N

MANUSCRIPT FOR PRACTICE CODING

This is a manuscript of a training tape designed to provide practice in applying the categories of interaction analysis.

5 T -- To uh study - uh - geometric figures - like we - uh worked (1) with
6 at the beginning of the year (2) and uh I'd like for you to look
6 at these figures that I have on the overhead (3) right now and tell
6 me something about the ones that (4) you see up there and how they're
4 similar and how they are different. (5) Monique.

8 S -- The tri- the triangle has 3, 3 sides, (6) the square has 4 sides,
8 the rectangle has 4 sides, (7) and the circle, the circle comes
8 back to where it (8) started.

4 T -- Ok* - now what have you told me? That they're (9) all what?

8 S -- Simple closed (10) curves.

2
5 T -- Ok. They're (11) all simple closed curves. In fact, (12) there's
4 another one that's a simple closed curve. (13) Which one?

8 S -- The last (14) one over there.

2 T -- Ok. The last one on the right hand (15) corner. Uh - now - I
6 want you to tell me how they're similar and (16) different. There's
5 one up there that's (17) different - and why. (18)*
6

8 S -- A simple (19) closed curve is when they all meet, but a simple
8 closed curve (20) never crosses.

4 T -- Ok, so which one would not (21) meet our specifications?

8 S -- Uh - the one that (22) looks kinda like an eight shouldn't be one
8 cause (23) it crossed.

2 T -- Ok! Good! (24) Good! Now let's go on a little bit farther and see
6 if we can find (25) some more similarities and differences.

10
10 (26) (27)

4 T -- Donald? (28)

8 S -- Rectangle and square - are both (29) quadralateral and parallelogram.

2 T -- Good! Good! (30) Now tell me why they're both rectangles (31) and
6 both quadralaterals.

* Ok here is used as a transition to her question not as praise for the student. (18) Refers to direction begun with (16).

8 S -- Cause, both, both (32) have four sides?

2
4 T -- Ok! (33) Good! And why - why are they (34) both quadralaterals?
10 (35)

4 T -- Billy? (36)

8
8 S -- Uh because they - uh - both sides (37) - er - all four sides -
8 uh (38) on a square - uh - are (39) equal.

7 T -- No. (40) Now - on all four sides, of the square they're equal but
3 that doesn't make them a (41) paral - uh quadra lat - uh -, I
3 mean a parallelogram. (42)

8 S -- Uh - two sides - uh - two pairs of two sides (43), they're uh -
8 that are parallel. (44)

2 T -- Parallel! Ok! (45) Good! What do we mean by parallel? (46) Who
3 can explain - Gene? (47)
4

8 S -- When you talk about parallel lines or something, (48) it means the
8 lines are - uh - straight (49) and just about even with the
8 other. (50)

4 T -- Ok, now. What have we used as our example (51) of parallel?
4 Monique? (52)

8 S -- A square? (53)

3
4 T -- Well, that's an example of being (54) parallel. Kathy? (55)

8 S -- Train tracks. (56)

3 T -- The train tracks and how they go on. (57) You see how these are,
5 are both parallel and these are both (58) parallel. So Donald has
3 told us that (59) - uh - they are both quadralaterals and both are
3 - uh - (60) parallelograms. Uh - What about polygons? Do we have
4 any polygons (61) up here? Mike?

8 S -- Yes. (62)

4 T -- Which ones? (63)

8 S -- The circle - (64) and the - uh - the one in the bottom right hand
8 corner. (65)

5
4 T -- Ok - I think uh, I think Mike might need some (66) help. Monique? (67

8
8 S -- The square, the rectangle, (68) the circle and the triangle. (69)

T -- Ok, now Monique's almost correct. (70) Let's see if she can - if (71) we can help her. Donald? (72)

S -- The square, the rectangle, and the triangle? (73)

T -- Good! Good! (74) Why are they all - polygons? (75)

S -- Cause they're (inaudible) line segments. (76)

T -- Ok. We've got line segments. (77) And the triangle and wh - uh - what about triangles? (78) How many line segments do we have there? Monique? (79)

S -- Three. (80)

T -- And what makes us know there are (81) three? What little prefix? (82)

S -- Tri (83)

T -- Tri. (84) The prefix tri means (85) three. Ok, then a quadra-lateral (86) ... how many sides we know it has? Donald? (87)

S -- Four. (88)

T -- Four! Good! Good! (89) Ok. Now, let's go on and talk a little bit more about the - uh - the quadralat (90) - uh - I mean the square and the rectangle. (91) Now - when we work with the square and rectangle, (92) we're going to have to know 2 terms - area and perimeter (93) - and we're gonna see if we can - uh - kinda find out what these two terms mean this morning (94). Uh - Let's count the - uh - the number of little units in the rectangle at the (95) top. Mike? (96)

S -- 24. (97)

T -- Ok. We have 24 little units. (98) Uh - Let's (99) think of the pairs of factors that we can use to, to get 24. Billy? (100)

S -- 1 and 24, (101)
2 and 12,
3 and 8, (102)
4 and 6, and that's all. (103)

T -- Good! Good! (104) Now let's look at our - uh - our picture again, (105) and see if you can decide which factors we might have used (106) - to get 24 here. (107)

S -- 6 and 8. (108)

3 T -- 6 and 8. (109)*

8 S -- I mean 3 and 8. (110)

3
3 T -- 3 and 8, why Monique? (111) - I mean uh Sybil. (112)

8 S -- Because we have 8 going - we have 8 going across (113) this way
8 and we have three going down. (114)

5 T -- Ok, Now, let's see if we can set up a little for[illegible] for (115) -
5 by which we might use - uh - what we've shown. (116) We've got
5 24 little units and you say there (117) are 3 - uh - rows going
3 across and 8 down. (118) Kathy? (119)
4

8 S -- Length times width? (120)

2 T -- Ok! Length times width. (121) What-er-you, why are you going to
3 use that? (122)

8 S -- uh - You multiply - uh - 3 x 8 is 24. (123)

2
4 T -- Ok. 3 x 8 (124) and you will receive - uh - an area of what? (125)

8 S -- 24. (126)

5 T -- Ok, Now you see I've used the word that you have just come up with.
5 (127)* Area means the number of square units that we have in a
5 rectangle (128) and then we're going to talk about in a few min-
4 utes, a square. (129) And uh - how do we receive it now? (130)
4 How do we get 24? Monique? (131)

8 S -- Length times width. (132)

2
4 T -- By multiplying (133) the length. Which is what? (134)

8 S -- 8 and, and the width is 3. (135)

2
6 T -- Good! Good! Good! Real good. (136) Now let's go on to this next
10 figure. (137) (138) Now let's look at this one and see what you
6 can think about how (139) we might find the area of this. (140) Is
6 it the same ?(141)
4

* (109) The answer is repeated not for praise or rejection, but for the purpose of clarification.
(127) The teacher said the students came up with "area" when actually the teacher did.

8 S -- No. (142)

2
3 T -- No. (143) Why Mike? (144)

8
8 S -- Because it's equal all the way around? (145) On all ... (145)

2 T -- Ok, good! So if it's equal all the (147) way around, what are you
4 telling me? (148)

8 S -- It's a square? (149)

2
4 T -- It's a square. Good! (150) Billy. (151)

8 S -- Uh - is the pe, perimeter uh - 16 squares? (152)

3 T -- Now the perimeter, or what? (153)

8 S -- Area. (154)

2
3 T -- The area is (155) 16. Why? (156)

8 S -- 4 x 4 is - uh 16. (157)

2 T -- Ok. (158) And we have 4 rows across and 4 rows down which would
5 (159) give us the 16, that we need. (160) Now he used something
5 right there - 16 square (161) - well let's say that we're using
3 inches. (162) Why do we say square? (163)*
5

8 S -- Because it's in a square region. (164)

5
10 T -- Ok. Well up here we have a rectangle. (165) (166) Gene? (167)
4

8 S -- Well because you're using - uh square units. (168)

2 T -- Ok! Good! Good! (169) We got - we have 24 little square units in
5 the rectangle (170) when we found this area. And down here we (171)
5 have got 16 square units in the square. (172) Now Billy used a
3 word - uh - just a few minutes ago that we talked about (173) be-
3 fore - perimeter. (174) Uh - Billy can you - Conna, or ..st anyone
3 tell us what perimeter (175) means?

3 T -- Or how we find it, Gene? (176)

* (163) Billy originally used "square" in 152, therefore she is using Billy's idea.

8 S -- To find the perimeter - you - uh add (177) the length to width
8 which when you're (178) (inaudible) the square... (179) you
8 have square inches.

7
3 T -- Now - we're not, we're - not (180) - why would we use square inches?
(181)

8 S -- Because you're multiplying sq. units. (182)

3
4 T -- Ok, let's see if we can help - uh Gene a little bit.(183) Mike? (184)

8
8 S -- Well there's on each one there's (185) there's four, but there's
8 (186) four sides and if you use two, (187) uh there's two at the
8 length and two at the (188) width and you add them?

3 T -- Ok. Let's see if we - you - if we can help Mike (189) - he's on
2 the track now. (190)

8 S -- Uh - The formula for the perimeter is 2 L times 2 W. (191)

3 T -- Ok - well we don't - uh - right here we don't (192)* have two
lengths and two widths.

8 S -- The definition of a perimeter is the sum (193) of measures - of
8 sides of pol - sides of the polygon. (194)

2 T -- Ok, the sum of the measures of uh - uh (195) what do we mean by
3 that? (196) Monique? (197)
4

8 S -- After uh ... (198) (199) (inaudible) (200)
8
8

4 T -- Kathy? (201)

8 S -- The length it is - uh - around one. (202)

2
2 T -- Ok! Good! (203) The length - uh - or the whole amount that it takes
5 to go (204) a completely around this. Now let's see. We've got
5 8 and 3 since it's a rectangle,(205) this side will be the same
4 and this side will be the same. (206) Who can tell us how we can
10 find the perimeter in the top (207) rectangle? (208) Kathy? (209)
4

8 S -- 2L plus 2W. (210)

* (192) The teacher is clarifying.

3 T -- Ok, why did you say 2L plus 2W? (211)

8
8 S -- Because there's 2 sides. (212) The side - two sides equals the length. (213)

2 T -- Ok. (214)

8 S -- Two sides - the width. (215)

4 T -- Ok - we - well what would the perimeter be? (216)

10 S -- (217) Uh - uh

10 (218)

1
4 T -- Ok. That's alright. (219) Billy? (220)

8 S -- Uh - 24 square inches? (221)

10
7 T -- (Pause) (222) - I don't believe so. (223) Donald? (224)
4

8 S -- 22 square inches? (225)

7 T -- 22 - not 22 square inches (226)

10 (227)

4 T -- Mike? (228)

8 S -- 22 square units? (229)

5 T -- Well - what - we don't need to use (230) square in this instance.

8 S -- 22 inches. (231)

2
5 T -- Just 22 inches (232) because we're not talking about the number
5 of little units inside of the (233) uh - of the rectangle; (234)
5 we're just talking about the whole amount it takes to go completely
6 around it. (235) Now let's look at the square and (236) somebody
6 tell me what the perimeter of the square would be. (237)

8 S -- 4L. (238)

2
3 T -- 4L (239) Why did you say 4L, Kathy? (240) Good! (241)
2

8 S -- All four sides are the same length. (242)

T -- All four sides are the same length, (243) so what would the perimeter be? (244) Anyone? (245)

(246)

T -- Donald? (247)

S -- 16? (248)

T -- 16. (249) What? (250)

S -- 16 inches. (251)

T -- Ok. If we're working with inches it would be 16 inches. (252) So now, we've established that an area is equal to the length (253) times the width. (254) And in the case of the square we said it was what? (255)

S -- 4L. (256)

T -- Now - that was the perimeter. (257)

S -- 16? (258)

T -- Sybil? (259)

S -- Uh... (inaudible) (260)

T -- No - we - they're all the same in this instance. (261) Donald? (262)

S -- Length (263) times (264). (265)

T -- Gene? (266)

S -- Length - uh - length times length. (267)

T -- Good! Length times length, (268) because they're all the exact same amount. (269) Ok now, let's - uh - find our per, uh ar, (270) our formula, that we have for perimeter. (271) In the rectangle what was it? (272) (273)

T -- Monique? (274)

S -- It was length times width. (275)

T -- Now that was for area, (276) (277). That's alright but that was your formula for area. (278) Sybil? (279)

S -- It was two times the length plus two times the width. (280)

T -- Two times the length plus two times the width (281) and that would tell us how far it was around here. (282) Ok, now what was our formula for perimeter in the case of the square. (283)

(Knock, knock on door)

T -- Uh - Carol, would you answer the door please? (284)

S -- 4L. (285)

T -- 4L! Good! (286) Ok, now - uh - I know that probably right now you're (287) thinking the same thing I, (288) I did when I was in your place in the 6th grade. "What (289) will I ever use this for?" Uh - can someone think of some ways in which we might use this later on? (290)

S -- Buying carpeting? (291)*

T -- Ok. Buying carpeting. That's a good one. (292) uh - How would you think that (293) you - what would you have to know to buy the carpet? (294) Kathy?

S -- The size of the room. (295)

T -- Ok. The size of the room. (296) But what do you mean "the size of the room?" (297)

S -- The - uh - perimeter? (298)

T -- Ok. (299) Why would you have to know perimeter? (300)

S -- So - you'd know how much carpeting to buy. (301)

T -- Ok. Good! Good! (302) Well would you just have to know the perimeter though? (303)

S -- You'd have to know the length and width of the room (304) so you could figure the carpeting. (305)

T -- Ok. Now you're all telling me wh, what we need. (306) But, in other words, after working with what we did today, (307) what will you have to know to buy your carpet? (308)

* (284) The teacher expects Carol to perform a task.
(291) The student is expressing his thought.

9 S -- The area. (309)

3 T -- The area and the (310)

8 S -- Perimeter. (311)

2 T -- Perimeter! Good! Good! (312)

9 S -- Another - uh - thing is like architecture, (313) cause uh you
9 might have to know the area (314) or the perimeter of the build-
9 ing. (315)

2 T -- Ok. (316)